

A1(M) junction 62 Carrville to A1/A19 Seaton Burn route-based strategy March 2013



Document history

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Highways Agency

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Executive summary

Introduction

The route-based strategy for the A1(M) junction 62 Carrville to the junction with the A19 at Seaton has been produced by the Highways Agency in response to the 2011 report *A Fresh Start for the Strategic Road Network* by Alan Cook (the Non-executive Chairman of the Highways Agency).

Route capacity and capability

The history of the route, with the section between the A1(M) and the River Tyne constructed as the local A613 Gateshead Western Bypass and only becoming part of the strategic road network and renumbered as the A1 with the opening of the Newcastle Western Bypass, means that its role for local traffic predates the strategic role subsequently placed upon it.

However, at a regional level, the route provides a critical link from the western side of Newcastle and Gateshead to Washington, Chester-le-Street and Durham to the south; the upper Tyne Valley (via the A69) to the west and Cramlington and Blyth to the north. The route is of local, regional and national importance for the movement of freight, providing connectivity with the ports at both Tyne and Tees. At a national level, the A1 provides the main north-south link connecting North East England to Scotland, Yorkshire and Humber, the East Midlands and London. The region's geographical location, some distance away from other core cities and labour markets, results in a more localised intra-regional travel to work catchment with potentially fewer inter-regional flows than are observed elsewhere. Given the limited north-south strategic route choices available there is great reliance on the route.

The close proximity of the interchanges means that the route is used by commuters, leisure and business trips, often for very short distances. Commuter trips exert the greatest influence during the conventional weekday morning and evening peak periods. However, the route is also put under strain outside the conventional peak times, due to inter, off-peak and weekend retail and leisure. The route provides access to the Metro Centre (the largest out-of-town shopping centre in Europe) Team Valley (the largest single employment site in Tyne and Wear) as well as the city core of Newcastle and Gateshead and Newcastle International Airport (the principal airport within the North East and the second largest airport in the North of England).

Traffic flows on some sections are in excess of 100,000 vehicles per day, exceeding its theoretical capacity. The layout of the road compounds these issues, due to the close spacing of interchanges on some sections. As a result, journey time reliability and congestion are major issues, meaning that the route is no longer effectively fulfilling its multifaceted roles and presents challenges in managing the route for strategic traffic.

Traffic growth coupled with major planned development will lead to further degradation in network operation. Failure to tackle the constraints suffered by the A1 is expected to result in complex and wide-ranging impacts, not least in relation to the potential for economic growth within Newcastle and Gateshead and the wider Tyne and Wear region.

Future requirements for the route

The identification of local priorities has been informed by local development frameworks and has been further explored through the stakeholder engagement.

The primary local priority is economic growth. The ability of the A1 to cater for the associated increase in demand placed upon it being viewed as critically important in relation to the large number of existing jobs that are dependant upon it as well as the realisation of future employment and housing across the region.

Through assessment of the respective future horizons of the strategy the operational characteristics of the route have been identified with the key critical locations of operational difficulty being noted; these representing the locations where further study and potential funding would be beneficial if these development aspirations and the associated economic growth are to be realised.

Route strategy

Three network capacity enhancement schemes are to be delivered by 2019 these are:

1. Seaton Burn Pinch Point programme scheme
2. Lobley Hill – Askew Road major scheme
3. Great Park Section 278 agreement works between Ponteland Road, Kingston Park and North Brunton

Four critical areas for further investigation have been identified. The areas of further examination have been prioritised for this route-based on need and deliverability:

4. Southbound through Eighton Lodge
5. Coalhouse to Lobley Hill

Take into account maintenance plans for the route opportunities also exist in relation to:

6. Allerdine Bridge replacement, and associated provisions between Eighton Lodge and Coalhouse
7. Derwentaugh Bridge, and associated Swalwell Slips

Noting the uncertainty regarding the replacement of these structures, there exists the potential for investment here to move beyond the strategy's current horizon, or to explore the need for interim interventions that could be realised in the medium term.

In addition, elements of the rolling programme of urban traffic management control offer an opportunity to consider operational enhancement and access control at a number of locations over the strategy's future horizons.

The rolling strategy of potential investment presented in this strategy is aimed at managing the predicted degradation in network operation. However, it should be recognised that any potential investment at the A1 aimed at supporting the identified growth in housing, jobs and the economy are not considered the solution to the whole of the issues faced by the strategy corridor; the challenges faced by the connecting local road network also require addressing. Complementing the identified areas of potential future investment at the A1 there would need to be a range of sustainable transport proposals if the wider network's increases in travel are to be managed and the associated potential for regeneration and economic benefits are not to be restrained by local road network capacity limitations.

The ability to deliver future measures within the timeframe of the current strategy should also be noted. Notwithstanding the availability of funding, there is limited road space capacity available to deliver future works especially given the existing commitment to major network enhancements at Seaton Burn and Lobley Hill to Dunston. As a result, it is considered necessary to maintain this strategy as a live document that responds not only to any future commitment to network enhancements but also changes to local development framework proposals and development delivery.

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1 Introduction

1.1 Background

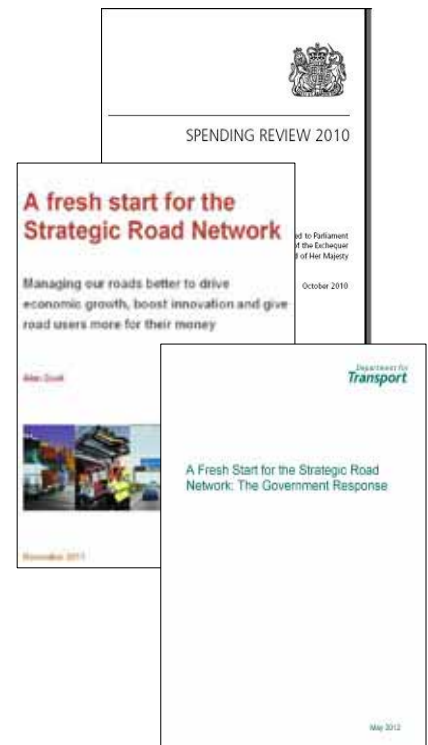
1.1.1 *A Fresh Start for the Strategic Road Network*, by Alan Cook (Non-executive Chairman of the Highways Agency), November 2011, made a number of recommendations, one of which was that the Highways Agency, working with local authorities and local enterprise partnerships, should initiate and develop route-based strategies for the strategic road network.

1.1.2 The Secretary of State's response to the Cook review, May 2012, accepted the recommendation for route-based strategies, stating that it would enable a smarter approach to investment planning and support greater participation in planning for the strategic road network from local and regional stakeholders.

1.1.3 The Highways Agency has begun this process by developing three route-based strategies including this for the A1(M) from junction 62 (Carrville) to the A1/A19 (Seaton Burn). The strategy seeks to address road based issues, provide a mechanism to engage with local partners, and ultimately bring together the national and local priorities to agree the needs of the route.

1.1.4 This strategy aims to bring together national and local studies that have already been carried out on this stretch of road to inform investment decisions. Engagement with local stakeholders has been undertaken in developing the strategy to ensure that their priorities have been taken into account, with the impact of development on the route being investigated.

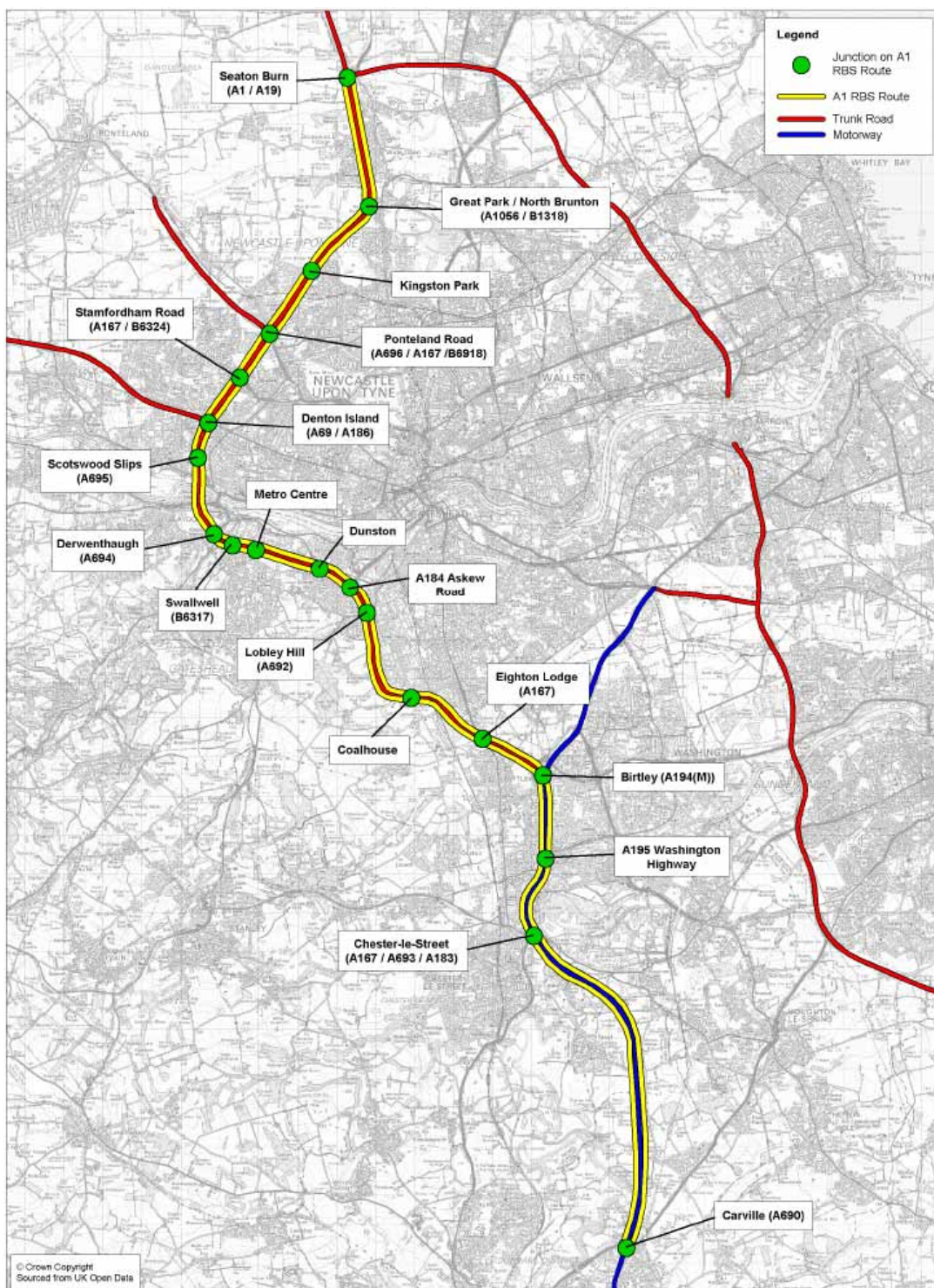
1.1.5 The route-based strategy does not outline a list of potential schemes, but rather presents a higher level consideration of which parts of the corridor will become most stressed in the future, as well as a considering how these demands and stresses can be managed.



1.2 Scope

- 1.2.1 The purpose of the route-based strategies is to inform the investment strategy for the network on a route by route basis, including operations, maintenance and any enhancements. It looks to:
- facilitate economic growth;
 - continue to manage journey time reliability and safety performance; and
 - maintain a resilient asset.
- 1.2.2 The key objectives for the strategy is to:
- test the approach to inform how they will be implemented in the future, address road based issues on the strategic road network;
 - form the basis for making decisions on funding for the next spending review period;
 - be a mechanism to engage with local stakeholders, to bring together national and local priorities and deliver tangible results that are strategically focused and realistic.
- 1.2.3 This route-based strategy covers:
- how to achieve the strategic road network objectives on the A1 around Newcastle and Gateshead, and the local priorities agreed with stakeholders;
 - investigation of an initial five year period plus a longer term horizon (a further 10 years);
 - considers opportunities for innovation, the role of other networks and other techniques; maintenance, operational activities and improvements; and
 - the impact on local roads in surrounding areas that interface with the route.
- 1.2.4 The route-based strategies do not cover other forms of transport; engagement with local stakeholders has been focussed on the strategic road network but recognises that the strategic road network does not operate in isolation.
- 1.2.5 This report cover the route-based strategy for the A1(M) from junction 62 Carrville to the A1 / A19 Seaton Burn, a length of approximately 18 miles, as illustrated in figure 1.1.

Figure 1.1 – study area



2 Capacity and capability of the route

2.1 Overview

2.1.1 To understand the route's future requirements firstly the current characteristics have been investigated, as set out in this section.

2.2 Context

2.2.1 The history of the route, with the section between the A1(M) and the River Tyne constructed as the local A613 Gateshead Western Bypass and only becoming part of the strategic road network and renumbered as the A1 with the opening of the Newcastle Western Bypass, means that its role for local traffic predates the strategic role subsequently placed upon it and, as a result, presents challenges in managing the route for strategic traffic.



2.2.2 With the A1 Newcastle and Gateshead Western Bypass being constructed in stages it was subject to development pressures from the start. On opening adjacent to the Gateshead section of the bypass in 1986, the Metro Centre is the largest out-of-town shopping centre in Europe, following recent expansion and further retail development taking place on surrounding brownfield land in recent years.

2.2.3 The nearby Team Valley's traditional heavy industrial background has shifted over recent decades to incorporate more intensive forms of employment such as office, but also retail and other land uses. Team Valley is the largest single employment site in Tyne and Wear constituting over 6.5 million sq.ft of development over 290 hectares made up of approximately 740 businesses with a total workforce of circa 21,000 people¹. As a result, the area is responsible for creating large numbers of car trips on the A1 from journeys to work and business trips throughout the day.

2.2.4 Newcastle International Airport is located off the A696, some 3 miles to the north-west of the Newcastle section of the bypass. As the principal airport within the

¹ www.teamvalleylinks.com

North East, the airport is reliant on the A1 in providing access for users from its regional catchment area. Extended in 2000 and again in 2004, the airport is the second largest airport in the North of England (after Manchester) and handles over 5 million passengers per annum (mppa).

2.2.5 In addition to providing access to these and other key local attractors:

- the A1 provides a strategic crossing of the River Tyne;
- comprises the main corridor linking other parts of the North East to the regional capital; and
- serves as the principal trunk route to Scotland, from the East of England.

2.2.6 The corridor has historically seen residential and commercial development occur up to its boundary. As such, and given the construction of some sections on elevated viaducts, opportunities for widening the route are limited, costly and lengthy to deliver.

2.2.7 Newcastle and Gateshead have undergone significant levels of regeneration over the past 20 years, creating an internationally renowned, dynamic conurbation with a wealth of economic and cultural attributes. Whilst the relative success of such regeneration has served to benefit not only the City Region but also the wider North East, such advancement has been achieved against a background of increasing levels of car ownership, falls in public transport patronage and rising levels of congestion.

2.2.8 Key facts about the Tyne and Wear area served by the A1 are set out below².

Travel to work

- The Tyne and Wear journey to work area has a large proportion of the workforce with a short travel to work distance (76% travelling less than 10 miles); Tyne and Wear household survey data for all trip purposes identifies that 57% of trips are by car and, of these, 65% are less than 3 miles in length, 85% are less than 6 miles.

² Reproduced from the Tyne and Wear Integrated Transport Authority's "Go Smarter to Work" small project bid document, 2012

Car ownership

- Car ownership is low compared to the UK generally, however, is rising faster than any other English region; the proportion of households without access to a car predicted to fall from 36% to 32% by 2021.

2.2.9 The number of households owning a car has been increasing. The 2001 census revealed that 42% of households in Tyne and Wear do not own a car, 42% own one car and 16% own two or more cars. In 1991 the respective figures were 51%, 38% and 11%. The growth in car ownership and the decline in bus patronage exert additional pressure on the A1 and the region's wider highway network.

2.3 Route description

Route composition

2.3.1 The route is subject to a 50mph speed limit between Eighton Lodge and Derwenthaugh with the national 70mph limit applying cross the remainder of its length. Access is restricted to grade-separated junctions and there are no central reserve openings or crossovers. Within the strategy corridor there are nineteen grade-separated interchanges, as described further below. The route provisions along the corridor in terms of mainline standard, merge and diverge and junction form are illustrated in Annex A.



2.3.2 The A1(M) to junction 64 lies within Durham with junction 64 to junction 65 falling within Sunderland.

2.3.3 The Gateshead section, from junction 65 to the crossing of the Tyne, comprises a variety of cross-sections and standards along its length, varying between dual 2-lane and dual 3-lane all purpose (D2AP and D3AP) provisions. The northern section through Newcastle extending between the Scotswood and Seaton Burn junctions and opened to traffic in December 1990. This scheme was designed to provide either a standard D2AP 7.3m wide or D3AP 11m wide carriageway, as appropriate, with one metre hard strips on both the nearside and offside of each carriageway.

Route function

- 2.3.4 The A1 within the strategy corridor performs local, regional and strategic functions. At a local level the close proximity of the interchanges means that the route is used by commuters, leisure and business trips, often for very short distances, as detailed later. Commuters exert the greatest influence during the conventional weekday morning and evening peak periods. However, the route is also put under severe strain outside the conventional peak times, due to inter, off-peak and weekend leisure trips resulting from the growth in Newcastle Airport, the presence of the Metro Centre and the wider regeneration of the Newcastle and Gateshead area attracting greater numbers of leisure journeys.
- 2.3.5 At a regional level, the route provides a critical artery linking the western side of Newcastle and Gateshead to Washington, Chester-le-Street and north Durham to the south; the upper Tyne Valley (via the A69) to the West and Cramlington and Blyth to the north.
- 2.3.6 The Tyne and Wear region's unique geographical location some distance away from other core cities and labour markets results in a more localised intra-regional travel to work catchment with potentially fewer inter-regional flows than are observed elsewhere. Given the limited north-south strategic route choices available, there is greater reliance on the route than is perhaps evident on key links in other city regions. Failure to tackle the constraints suffered by the A1 is expected to result in complex and wide-ranging impacts, not least in relation to the potential for economic growth within Newcastle and Gateshead and the wider Tyne and Wear region.
- 2.3.7 The route is also of local, regional and national importance for the movement of freight, providing connectivity with the ports at both Tyne and Tees.
- 2.3.8 At a national level, the A1 provides the main north-south link connecting North East England to Scotland, Yorkshire and Humber, the East Midlands and London.

City Deal

- 2.3.9 In September 2012, City Deals were finalised between central Government and eight of the largest cities in England. The Newcastle City Deal, which encompasses both Newcastle and Gateshead, seeks to give the area the powers needed to drive economic growth and unlock projects or initiatives that will boost the local economy.

2.3.10 Transport and connectivity forms one of the five key parts of the city deal, it commits to:

Produce an investment programme with Government to reduce congestion on the A1 Western Bypass, to reduce journey times on one of the most congested links in the national network³.

The city region deal document⁴ announces “a major step forward in addressing the key transport priority identified by the local enterprise partnership, to alleviate congestion on the A1 Western Bypass”.

2.3.11 For its part, Newcastle commits to:

- Establish a joint governance deliver and accountability arrangement between Newcastle and Gateshead councils, Department for Transport and the Highways Agency to address congestion problems on the A1 Western Bypass.
- Develop initiatives through the Tyne and Wear local transport plan capital programme to improve integration of the local and truck road network.
- Work with the local enterprise partnership and partner local authorities to develop further local complementary measures for the post 2015 period.
- Invest £2.5 million in Tyne and Wear’s urban traffic management and control (UTMC) system.

2.3.12 The government has made the following commitments under the city deal:

- DfT and the Highways Agency to work with Gateshead and Newcastle councils to develop local transport investment proposals to address congestion on the A1 Western Bypass.

2.3.13 Part of the announcement by the Chancellor of the Exchequer made on the 5 December 2012 was that the Government will:

- *invest £378 million to upgrade key sections of the A1 (Lobley Hill and Leeming to Barton) in the North East bringing the route from the M25 to Newcastle up to motorway standard*

³ HM Treasury (18/09/12) Government formalises Newcastle city deal Press Notice PN 84/12

⁴ Newcastle City Deal, July 2012

- 2.3.14 The City Deal and the Government's commitment to funding clearly underlines the importance of the route to the economy of the region, and the impact that the current operational issues are having on development.

2.4 Route operation and performance data

Existing conditions

- 2.4.1 Since its construction, and its associated re-designation as the A1, the route has come under severe pressure from increasing demand. Traffic flows on some sections are in excess of 100,000 vehicles per day. In 2008 the average weekday traffic flow on the Lobley Hill to A184 section was 123,400 vehicles; three times its theoretical capacity. The layout of the road compounds these issues, due to the close spacing of interchanges on some sections.
- 2.4.2 As a result, journey time reliability and congestion are now major issues, meaning that the route is no longer successfully fulfilling its multifaceted roles effectively, as is indicated by stress factor for most of the A1 in Gateshead being over 100%⁵. This situation is viewed as hindering future development and restraining potential economic growth in the area. Future traffic growth, coupled with major planned development, is predicted to lead to further degradation in network operation.
- 2.4.3 The Tyne and Wear Integrated Transport Authority's "Go Smarter to Work" small project bid, noted earlier, recognises this issue:
- "The biggest highway challenge in Tyne and Wear is congestion on the A1 Western Bypass. This manifests in increased delay and unreliable journey time which undermines our economic growth. Because of this, at least 8,000 homes and 4,000 new jobs are at risk..."*
- 2.4.4 The primary partner to the bid is identified as the Highways Agency, with other key partners listed.
- 2.4.5 There is a large amount of data available in relation to the recent and historic performance of the route, which enables an understanding to be gained as to the

⁵ The stress factor for a particular link is defined as the ratio of the AADT flow to the congestion reference flow. When the traffic flow on a particular link reaches the congestion reference flow it is considered to be at 100% Stress.

performance of the route in relation to a number of issues, as outlined further below.

- 2.4.6 Supplementing this historic data, reference has been made to the Highways Agency's mesoscopic model of the strategic road network within Tyne & Wear and Durham. The modelling technique is outlined in Annex A, the modelling undertaken to advise this route-based strategy is discussed later in this report.

2.5 Route characteristics

Route operation metrics

- 2.5.1 Information relating to the following indicators has been examined to better understand how the route operates currently. The route characteristics are summarised in table 2.1. Those metrics highlighted blue below have been pulled together into figure 2.1 which illustrates a non-weighted summary of the combined intensity of these measures along the strategy corridor.

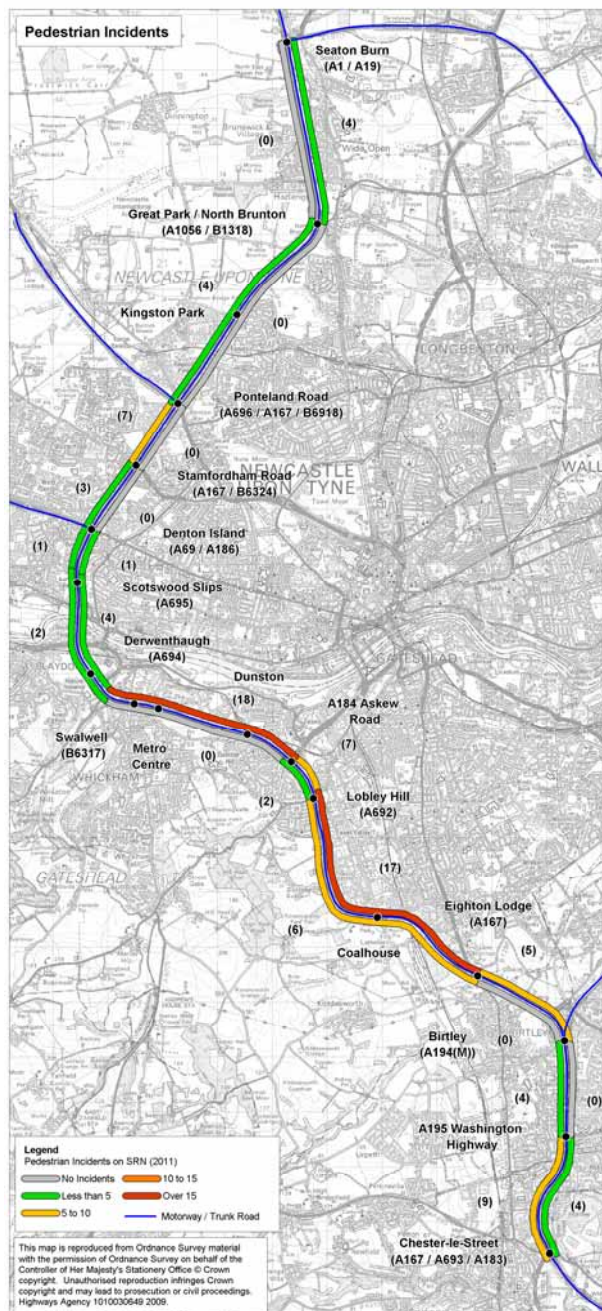
- Annual average daily traffic
- Average monthly vehicle hour delay
- Percentage of reduced capacity hours
- On-time reliability measure
- Killed or serious injury incidents
- Casualties per billion vehicle miles
- Road traffic collisions per kilometre
- Pedestrian incidents on strategic road network
- Air quality
- Flooding incidents
- Severe weather closures
- Breakdown incidents per kilometre
- Breakdown incidents in live lanes
- Breakdown Incidents in live lanes (average duration)
- Incidents involving a lane closure

- 2.5.2 From the examination of this data two areas have been identified as worth further consideration.

Pedestrian incidents on strategic road network

2.5.3 Illustrated here are the numbers of pedestrian incidents at the route corridor.

2.5.4 The A1 has no footpath provision within the length considered in this strategy. Therefore, although not particularly high numbers, in most cases, the intensification of these incidents within the general areas of the Metro Centre and Team Valley is considered worthy of further investigation and is recommended as an outcome of this strategy.



Air quality

2.5.5 Vehicular traffic using the strategic road network is a source of air pollution which has an impact on air quality. The approach to air quality is driven by the EU Directive on ambient air quality and cleaner air for Europe, which sets limit values for certain pollutants which must not be exceeded in the UK. Further, the UK air quality strategy sets air quality objectives, and if these are expected to be breached a local authority is required to declare an air quality management area (AQMA).

2.5.6 The data obtained shows where Nitrogen Dioxide (NO2) emissions are predicted to be higher than the limit set by the EU. This data's original source is from the Department of Environment, Food and Rural Affairs (DEFRA) and represents values generated by modelling. Noting that the data relates to modelled NO2 predictions there are areas of the corridor between Great Park and Lobley Hill that are considered worthy of further investigation. Again, this is recommended as an outcome of this strategy.

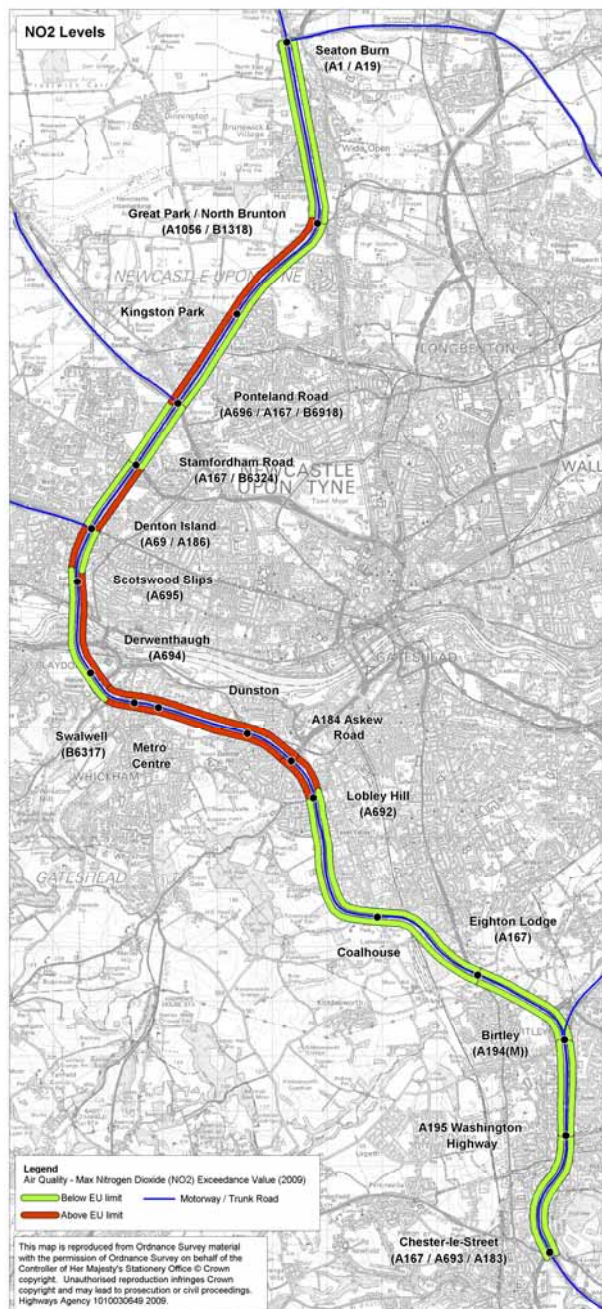


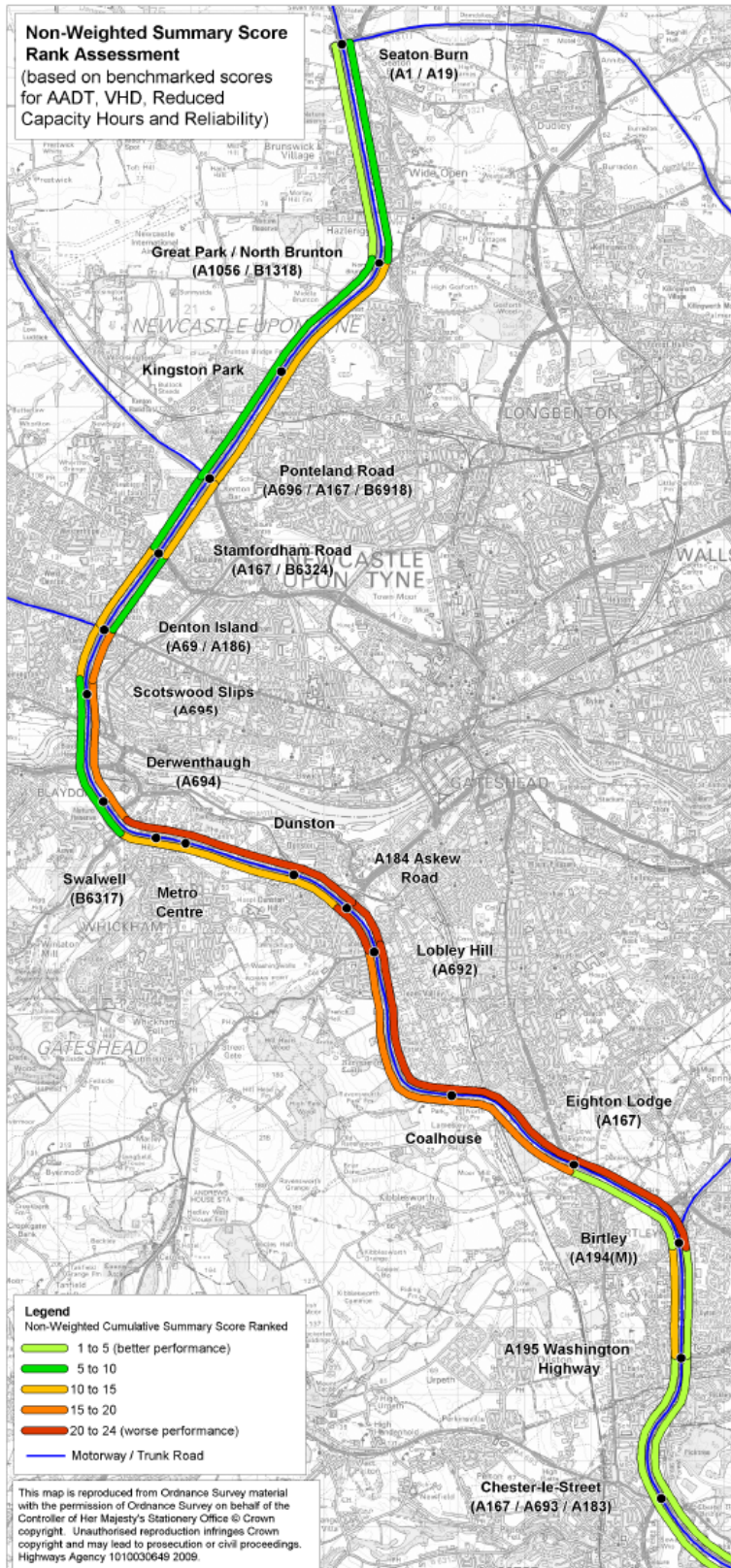
Table 2.1 – summary of route characteristics

Description	AADT		AADT (Northern Benchmark)		VHD		VHD (Northern Benchmark)		Reduced Capacity Hours		Reduced Capacity Hours (Northern Benchmark)		Reliability		Reliability (Northern Benchmark)		Reliability (National Benchmark)		KSI Casualties		KSI Casualties (Northern Benchmark)		Casualties per Billion Vehicle Miles		Casualties per Billion Vehicle Miles (Northern Benchmark)		Casualties per Billion Vehicle Miles (National Benchmark)		Road Traffic Collisions per km		Road Traffic Collisions per km (Northern Benchmark)	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB		
Seaton Burn																																
Mainline north of Great Park																																
Great Park																																
Mainline north of Kingston Park																																
Kingston Park																																
Mainline north of Ponteland Road																																
Ponteland Road																																
Mainline north of Stamfordham Road																																
Stamfordham Road																																
Mainline north of Denton Island																																
Denton Island																																
Mainline north of Scotswood																																
Mainline north of Derwenthaugh																																
Derwenthaugh Junction																																
Mainline north of Swalwell																																
Mainline north of Metro Centre																																
Metro Centre																																
Mainline north of Dunston																																
Dunston																																
Mainline north of A184																																
A184 Junction																																
Mainline north of Lobley Hill																																
Lobley Hill																																
Mainline north of Coalhouse																																
Coalhouse																																
Mainline north of Eighton Lodge																																
Eighton Lodge																																
Mainline north of Birtley																																
Birtley																																
Mainline north of Washinton Services																																
Washington Highway																																
Mainline north of Chester-le-Street																																
Chester-le-Street																																
Mainline north of Carville																																
Carville																																

Table 2.1 – summary of route characteristics, continued

Description	Pedestrian Incidents		Air Quality		Flooding		Severe Weather Closures		Breakdowns per km		Breakdowns in Live Lane		Breakdowns in Live Lane (Average Duration)		Lane Closure Incidents	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
Seaton Bum																
Mainline north of Great Park																
Great Park																
Mainline north of Kingston Park																
Kingston Park																
Mainline north of Ponteland Road																
Ponteland Road																
Mainline north of Stamfordham Road																
Stamfordham Road																
Mainline north of Denton Island																
Denton Island																
Mainline north of Scotswood																
Mainline north of Derwenthaugh																
Derwenthaugh Junction																
Mainline north of Swalwell																
Mainline north of Metro Centre																
Metro Centre																
Mainline north of Dunston																
Dunston																
Mainline north of A184																
A184 Junction																
Mainline north of Lobley Hill																
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Coalhouse																
Mainline north of Eighton Lodge																
Eighton Lodge																
Mainline north of Birtley																
Birtley																
Mainline north of Washinton Services																
Washington Highway																
Mainline north of Chester-le-Street																
Chester-le-Street																
Mainline north of Carville																
Carville																

Figure 2.1 non-weighted summary of corridor metrics



2.6 Asset condition

Route summary

2.6.1 Particular characteristics of this route are:

- The A1 Newcastle / Gateshead Western Bypass is very heavily trafficked and has the fourth highest traffic volume nationally for all purpose trunk roads.
- Geotechnical issues exist include the potential for shallow mine workings, mainly coal.
- Structures overlying clay, alluvium and peat beds (Kingsway Viaduct at Coalhouse) are suffering on-going settlement requiring regular maintenance in the form of annual highway resurfacing.
- There is potential for contaminated land in the more industrialised parts of the network.
- The majority of the network comprises dual carriageway with no hard shoulder making it difficult to carry out routine inspections and maintenance works, especially to the highway structures.

2.6.2 The assets that are managed along the route are numerous and varied, extending beyond the road pavements themselves to include other highways structures, an array of drainage and geotechnical assets, and supporting infrastructure including technology and lighting. For the route to fulfil its purpose these assets need to remain resilient to the variety of factors that influence its condition. Provided below is a brief commentary of the matters for which data has been gathered and has informed this strategy's development and outcomes, in relation to:

- Pavement conditions;
- Condition of structures; and
- Technology provisions.

Roads (including pavements)

2.6.3 The condition of the pavement is influenced by an array of factors including the density and type of traffic demands, exposure to severe weather and the quality of the pavement achieved from the implementation and renewal regimes that are in place.

2.6.4 The current condition of pavements is below national average. The programme is heavily biased to remedy this situation but the current policy of patching rather than wholesale resurfacing is likely to result in a worsening of this condition.

2.6.5 The percentage of high or severe rated geotechnical features is slightly below the national average. Problem areas located within Team Valley and elsewhere are suffering on-going settlements. The movement associated with these structures is being monitored with surface settlement being mitigated with regular maintenance resurfacing.

2.6.6 Significant heavy rainfall in 2012 has generated several new issues around Newcastle and Gateshead, with a landslip requiring remediation as Emergency Works. A brief inspection of the section between Coalhouse and Lobley Hill was undertaken in August 2012 which identified several new defects. As a consequence of these assets previously being thought to be in good condition, a full detailed inspection of the A1 Gateshead and Newcastle Western Bypass has been recommended.

Structures

2.6.7 Recent severe winter weather has led to deterioration in existing structural defects, particularly concrete cracking and spalling.

- In 2013 the second phase of bridge deck refurbishment works will be undertaken on Allerdene Railway bridge, which will mark the completion of the works to the bridge's concrete deck slab. The bridge is a strategic structure supporting the A1 across the electrified East Coast Mainline. Once works on the deck slab have been completed attention will focus on the bridge deck half joints at the piers which support the central span over the rail tracks.
- Despite the on-going works the overall condition of the bridge is of concern for its long term serviceability and a feasibility study is shortly to be started to look into replacing this important structure.

Technology

2.6.8 Technology plays an increasingly critical part in the operation and management of the network and in supporting the overall objectives of the Highways Agency. Table 2.2 provides an overview of the current technology in use along the route, including:

- VMS / EMS – variable message and enhanced message signs

- CCTV – closed-circuit television
- ERT – emergency roadside telephone
- Ramp metering
- ANPR – automatic number plate recognition cameras
- NRTS – national roads telecommunications service infrastructure
- Meteorological / environmental sensors
- MIDAS – motorway incident detection and automatic signalling.
- Lane signals

2.6.9 As can be seen from table 2.2, the corridor has is poorly technology served by technology to actively advise drivers of incidents; within the area of the route-based strategy there are only six variable message signs. This contributes to traffic delay, resulting in damage to the ability to maintain a resilient asset and environmental impacts associated with queuing and longer journey times. To this end, the development of the technology asset along the route is considered worthy of consideration as part of future network enhancements.

Table 2.2 – current technology provisions

Location:	VMS / EMS		CCTV		ERT		Ramp Metering		ANPR		NRTS		Meteorological Sensor		Environmental Sensor		MIDAS		Lane Signals		
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	
Seaton Burn																					
Mainline north of Great Park																					
Great Park																					
Mainline north of Kingston Park																					
Kingston Park																					
Mainline north of Ponteland Road																					
Ponteland Road																					
Mainline north of Stamfordham Road																					
Stamfordham Road																					
Mainline north of Denton Island																					
Denton Island																					
Mainline north of Scotswood			2																		
Mainline north of Derwenthaugh																					
Derwenthaugh Junction																					
Mainline north of Swalwell			1																		
Mainline north of Metro Centre				1																	
Metro Centre																					
Mainline north of Dunston	1																				
Dunston																					
Mainline north of A184				1																	
A184 Junction																					
Mainline north of Lobley Hill																					
Lobley Hill																					
Mainline north of Coalhouse	1	1	1	1																	
Coalhouse																					
Mainline north of Eighton Lodge		1		1																	
Eighton Lodge																					
Mainline north of Birtley			1	1													3				
Birtley						1											1				1
Mainline north of Washinton Services			1		1	2											3		1	1	
Washington Highway	1		1		4	5											3		1	1	
Mainline north of Chester-le-Street	1		1		1	1											1		1	1	
Chester-le-Street					1	1															
Mainline north of Carville					6	6													4	4	
Carville	1		1		1	1															

2.7 Operational management

2.7.1 The management of the route through the National and Regional Traffic Control Centres, the Traffic Officer Service and the use of technology play a key role in the reliability and safety of the network. This section aims to consider some of the operational management issues on the route. By way of illustrating the challenges discussed below, figure 2.2 illustrates the number of incidents within 2011 involving a lane closure.

2.7.2 As outlined earlier, the route was not conceived and delivered as a trunk road with the local A613 Gateshead section only becoming part of the strategic road network and renumbered as the A1 with the opening of the Newcastle section. Although the Newcastle section is of a higher standard of provision the route from the A1(M) does not comply with current Design Manual for Roads and Bridges (DMRB) standards and guidance. The resulting, generally, dual two lane provisions, absence of hard-shoulder, limited number of lay-bys, closely spaced junctions coupled with no alternative parallel routes results in challenges in managing incidents.

2.7.3 In response to the above limitations, incident management and recovery is through use of Retriever recovery motorcycles which is an innovative method of vehicle recovery with a fold-up motorbike trailer collapsible to the width of its own handlebars.



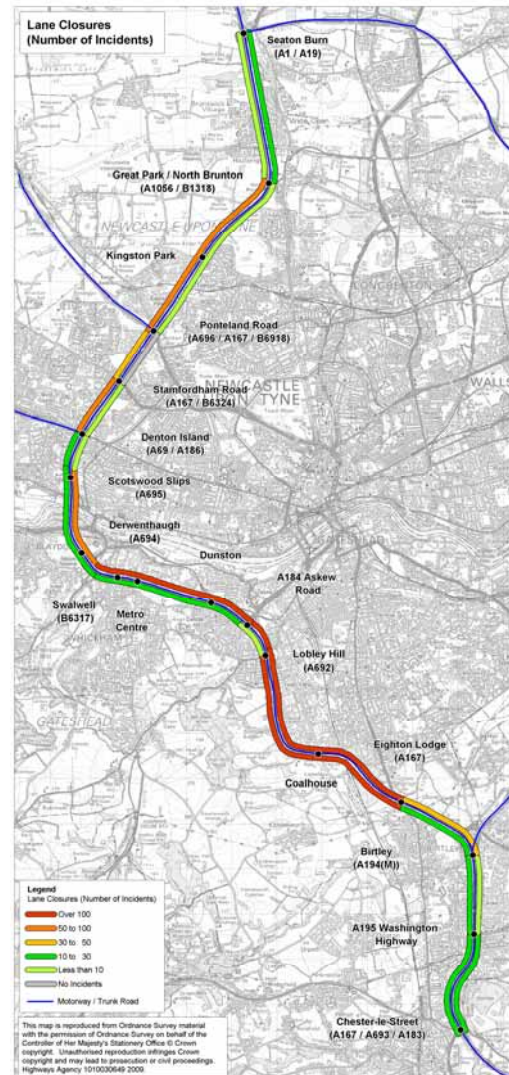
2.7.4 The benefit of providing a lay-by within the vicinity of the A1231 slip at Birtley to permit the recovery of vehicles off live carriageway has been noted by the Traffic Officer Service, in addition to:

- A request that observation points be considered for inclusion within any network enhancement works, where possible;
- The need for better marker post provisions, to improve driver's ability to identify the location of incidents; and
- Consideration to be given to the incorporation of variable message sign provisions within network enhancement, to improve the ability to better advise drivers of incidents.

2.7.5 The provision of closed-circuit television cameras and MIDAS as part of any future enhancement schemes is also considered worth further exploration.

2.7.6 A very high numbers of personal injury accidents are recorded on route. These tend to have a low severity ratio due to congestion and the resulting slow speeds, accident numbers involving damage only are not recorded but add to the number of incidents at the corridor, as do closure associated with a wide variety of issues (breakdowns and animals or debris on the carriageway).

Figure 2.2 - incidents involving a lane closure



2.7.7 All incidents tend to result in serious congestion and delay and where diversion to the road network results or is directed, these quickly become congested, resulting in serious delays across the conurbation.

Events / seasonal issues

2.7.8 There are a number of venues where large and high profile events take place, which are ultimately serviced by the route (sporting facilities, annual events and shopping and leisure attractors). However, the route is not particularly subject to seasonal variations in demand, as discussed later.

Climate / weather

2.7.9 Due to the proximity of the coast bounding the North Sea, the route is susceptible to easterly weather patterns and can experience sudden snow falls (as witnessed during the 2010/11 winters) and significant rainfall. As well the difficulty this brings to the delivery of both maintenance and improvement schemes discussed earlier, the network characteristics and lack of parallel routes result in challenges regarding operational management during extreme weather conditions.

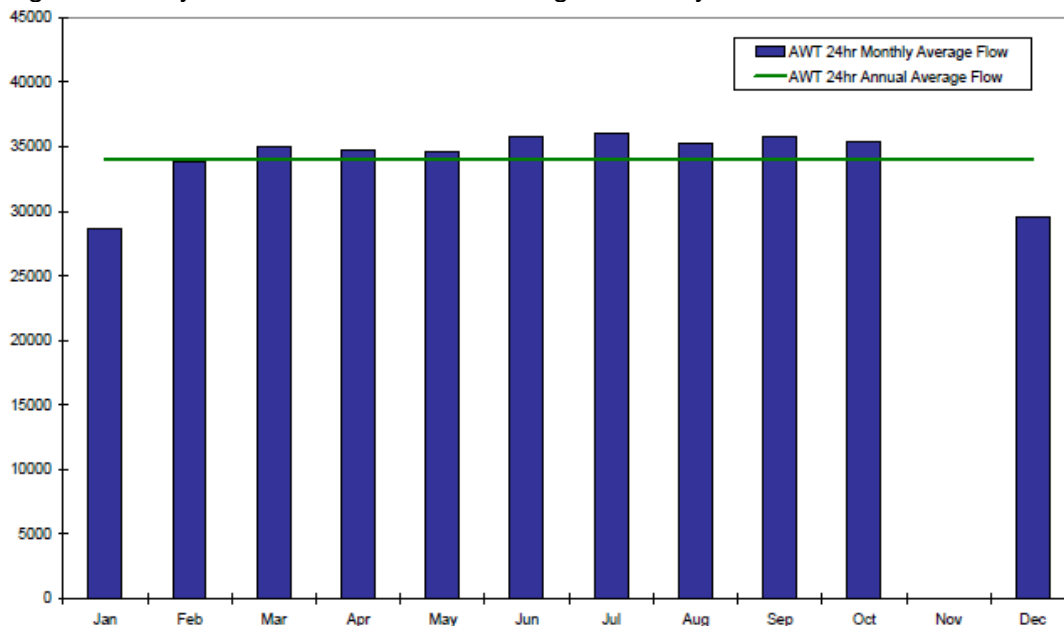
2.8 Vehicle characteristics and travel patterns

2.8.1 Within 2009 and 2010 the Highways Agency undertook extensive automatic number plate recognition surveys to looking at the characteristics of travel on the A1(M) between A693 / A183 junction (Chester-le-Street) through to and including all junctions to the A1 / A19 (Seaton Burn).

Seasonal variation

2.8.2 The routes flows are relatively stable between February and October, identifying that the peak hour constraints are apparent for the majority of the year. The daily flows are illustrated in the Figure 2.3.

Figure 2.3 - Tyne and Wear 24-hour average weekday traffic



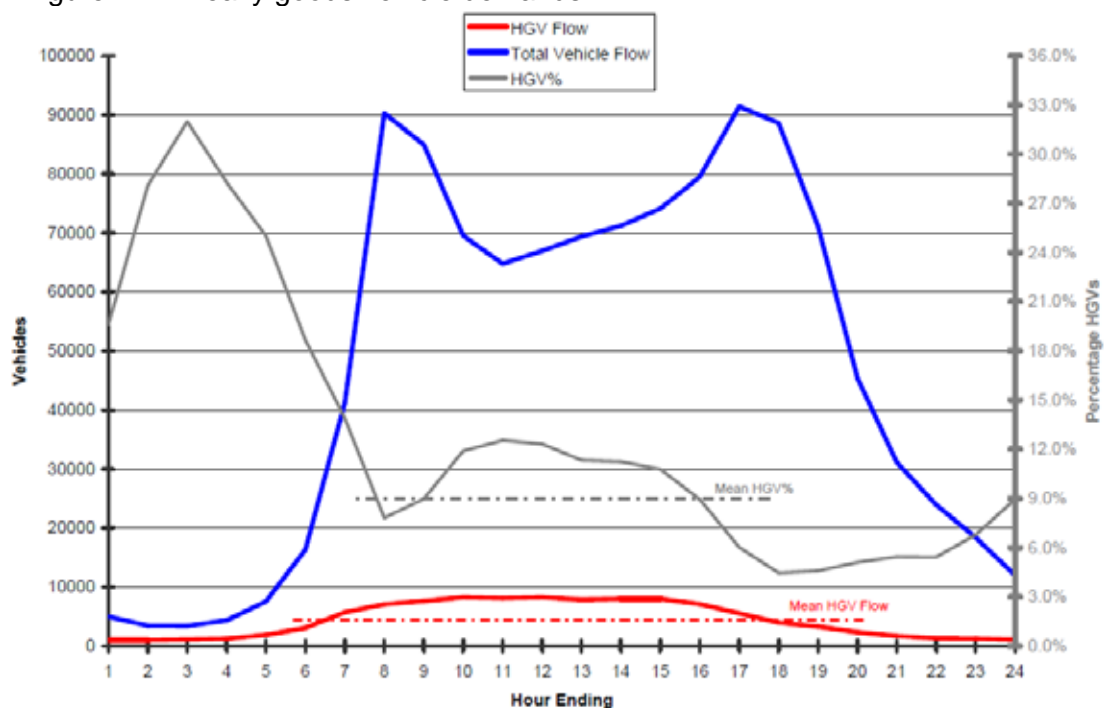
* Data from November incomplete and, therefore, excluded

Heavy goods vehicles

2.8.3 Figure 2.4 illustrates the total weekday flows along the corridor and associated numbers of heavy goods vehicle, as well as the percentage of heavy goods vehicles, plotted to the right hand axis.

2.8.4 This data shows that heavy goods vehicle demands are at their highest during the inter-peak period and are noticeably lower in terms of both numbers and percentage during the morning and evening peaks, when demands are high and delay at the network is most apparent.

Figure 2.4 – heavy goods vehicle demands



2.9 Identification of network performance

Mesoscopic modelling

2.9.1 The current and future operation of the route has been informed by the Highways Agency's mesoscopic model for Tyne & Wear and Durham; this modelling technique is outlined in Annex B.

2.9.2 Model runs have been undertaken for the validation year of 2010. Between this date and 2014, the first year of the strategy, there are a number of small scale network modifications that require considering. These are outlined in section 3

along with the details of traffic growth and the influence of local development frameworks' land use development aspirations.

2.10 Stakeholder information

2.10.1 Over the past seven years the Highways Agency within the North East has engaged with local planning and authorities in response to their emerging local development framework aspirations, working with them to realise the implications for the continued operation of the strategic road network and to develop a highways and traffic evidence base.

2.10.2 This work has resulted in the preparation of infrastructure studies; although these infrastructure studies are at differing stages of development and finalisation, there is common consensus as to the scale and nature of the impact on the strategic road network in the region (specifically that encompassed by this A1 route-based strategy) and the associated scale and nature of interventions required if the land use aspirations identified in these documents are to be realised.

2.10.3 The development of these working relationships are considered vital in understanding the role the A1 plays in supporting the local economy and also in comprehending the dependency between the A1 route and the local road network in terms of their capabilities and capacity. Discussion of how local development framework proposals have influenced the preparation of this route-based strategy is contained in section 3; Annex D provides an overview of the current Newcastle, Gateshead, Northumberland and Durham local development framework documents.

2.10.4 Complementing this previous engagement, a stakeholder workshop was held by the Highways Agency on 24 October 2012, to introduce the A1 route-based strategy to key representatives from local authorities along the route (including planning, transport policy and highways teams) and representatives of the North East local enterprise partnerships, North East Chamber of Commerce and the Department for Transport.



2.10.5 A summary of the matters discussed at the stakeholder workshop is contained in Annex C, as is a copy of a letter received by the Highways Agency jointly signed

by Newcastle City Council and Gateshead Council, supporting the workshop and development of the Strategy.

2.11 Previous studies and strategies

2.11.1 Complementing this engagement and the Highways Agency's infrastructure studies, a list of the relevant strategies and studies that have informed the development of this strategy is given below.

National strategies and studies

- National infrastructure plan
- National planning policy framework

Regional strategies and studies

- Regional spatial strategy
- Northern Way
- Local enterprise partnership proposal

Key local strategies and studies

- Local plan⁶
- Local transport plan
- Local development frameworks (a summary overview of Newcastle, Gateshead, Northumberland and Durham's LDFs is contained in Annex D)

⁶ The local plans for Newcastle and Gateshead are currently in the process of being updated with saved policies eventually being superseded by the One Core Strategy currently being prepared in partnership

3 Future route requirements

3.1 Local priorities

- 3.1.1 The identification of local priorities has been informed the infrastructure studies prepared by the Highways Agency in response to local development frameworks and has been further explored through the stakeholder engagement.
- 3.1.2 The primary local priority is economic growth. The ability of the A1 cater for the associated increase in demand placed upon it being viewed as critically important in relation to the large number of existing jobs that are dependant upon it as well as the realisation of future employment and housing across the region.
- 3.1.3 However, the environmental benefits of maintaining and improving the corridor's throughput is also recognised, as it the necessity to address local highway capacity issues in tandem with those at the A1 itself. The important role of urban traffic management and control is recognised as a key aspect of such but so it the need to understand the implications at the local road network as a result of any investment at the A1 and to align the delivery of any interventions with complementary measures at the local road network.
- 3.1.4 Complementary measures are identified as not simply the provision of additional highway capacity but those which seek to minimise network demands through alternative means and influence mode choice, such as those outlined within the *Go Smarter to Work* proposals.

3.2 Future developments and network usage

Approach

- 3.2.1 This strategy has been advised by mesoscopic modelling of the network, as introduced in section 2. Outlined below is how the future demands at the network have been accounted for, in terms of background traffic growth and the influence of local development framework land use aspirations.
- 3.2.2 These assessments have been prepared for an initial year of 2014 and the future horizons of 2019 and 2029 respectively.

3.2.3 Recently there has been much anecdotal discussion of a decline in traffic demands within Tyne and Wear. Further research has shown that the perceived reduction in flow between 2008 and 2010 is apparent at the A1, but has occurred mainly during the off-peak periods. Although the economic downturn has impacted upon the number of trips on the network compared to 2010 the primary impacts remain apparent during the off-peak periods; during the 3-hour weekday morning and evening peaks there has been a return to the previously recorded levels of demand.

Summary network flow changes

3.2.4 Figure 3.1 and 3.2 illustrate the identified changes in flow between 2010 and 2012, compared to TEMPRO trip-end forecast⁷.

3.2.5 The data from both peak periods demonstrates that the change in flow varies across the network and, therefore, that forecast growth does not apply evenly across the network as a whole. To account for this geographical variation in growth reference has been made to planned development within Newcastle and Gateshead, as set out in the emerging local development frameworks.

⁷ The TEMPRO forecasts referenced are car driver trip ends and exclude Transport Analysis Guidance (TAG) Unit 3.15.2 recommended fuel and income changes.

Figure 3.1
Recorded weekday morning peak network flow changes, compared to TEMPRO trip end forecasts



Figure 3.2
Recorded weekday evening peak network flow changes, compared to TEMPRO trip end forecasts



Future development aspirations

3.2.6 For the purpose of considering the future requirements for the route the strategic housing land availability assessment (SHLAA) and employment land review (ELR) information for Newcastle and Gateshead has been considered. The site locations are shown in figure 3.3 and 3.4 respectively.

3.2.7 By virtue of housing and employment proposals being considered so are the primary generators of new trips during the weekday morning and evening peaks, the network's most critical periods of operation.

Figure 3.3 – spatial portrait of Newcastle City Council's SHLAA / ELR sites

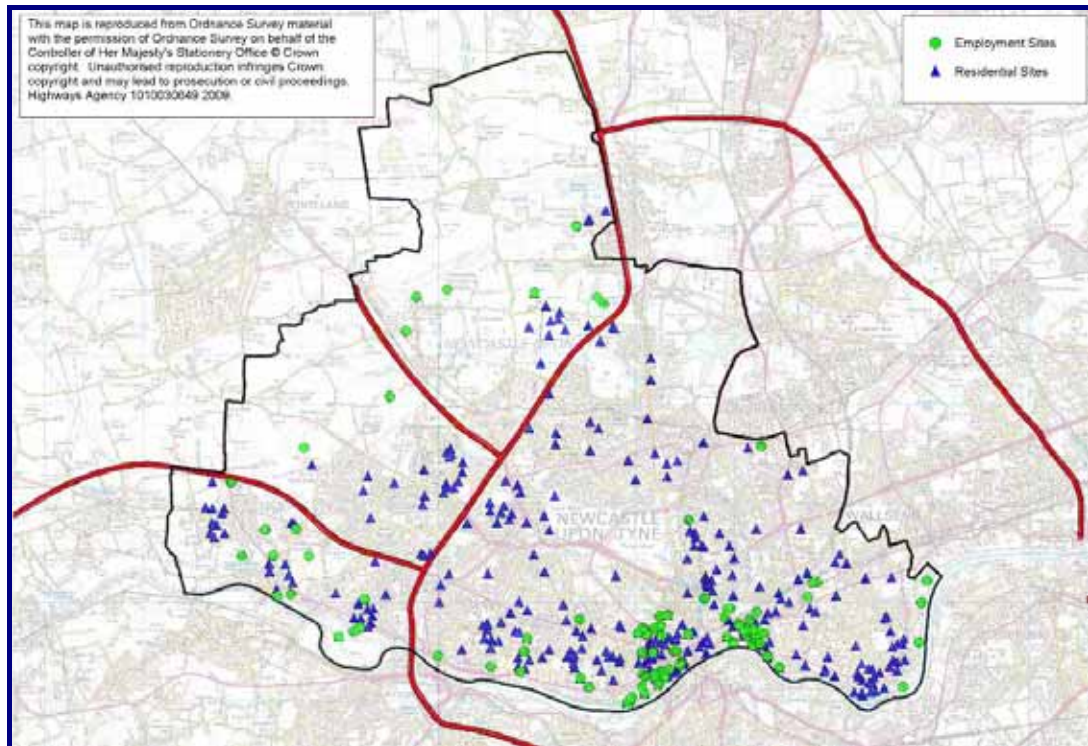
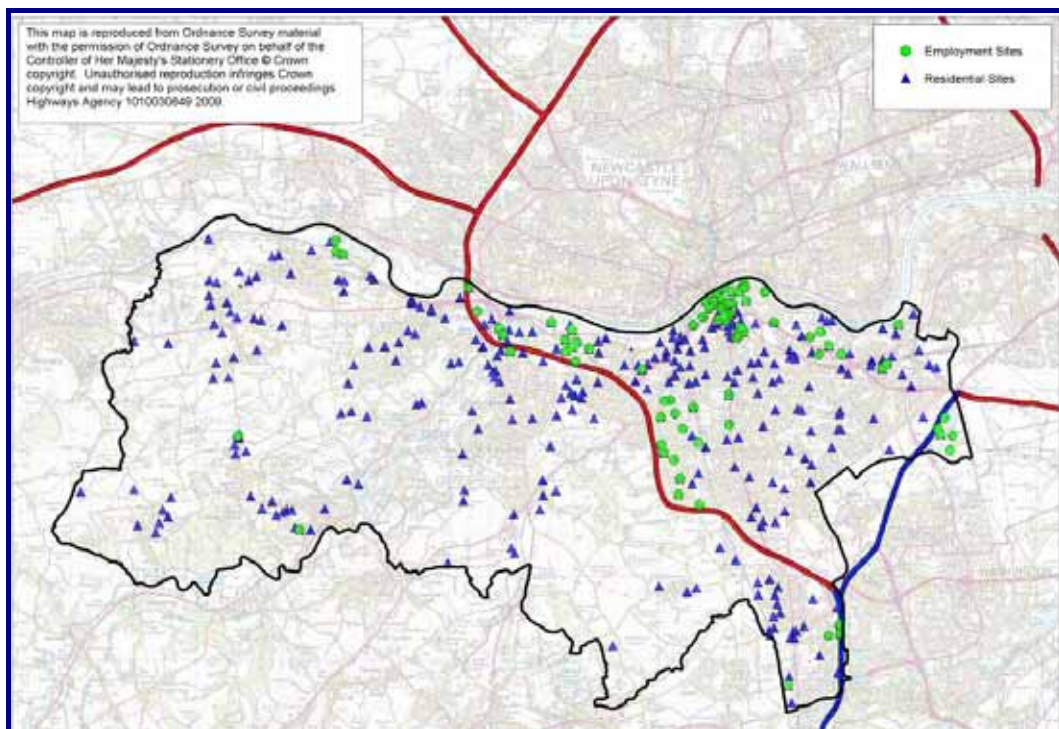


Figure 3.4 – spatial portrait of Gateshead Council’s SHLAA / ELR sites



- 3.2.8 The trips associated with these sites have been estimated and phased to reflect the assessment years of the route-based strategy. These trips have been distributed to the wider network, restrained to the overall growth forecasts and assigned to the mesoscopic model. These future development trip patterns are shown in figures 3.5 and 3.6 for the morning and evening respectively.
- 3.2.9 The inclusion of these trips through the process described above intensifies the growth at the network where development is planned, reducing that where it is not, while maintaining the overall forecasts⁸ growth across the network as a whole.
- 3.2.10 The resultant trips add considerable demand to network between North Brunton and A1(M) junction 65. The area of greatest additional flow due to new development is around the Denton Island area, reflective of the major developments proposed in this area, and in the section between Lobley Hill and the A184.
- 3.2.11 The latter is currently the most problematic section of the current network, and subject to improvement following the Chancellor’s statement in December 2012.

⁸ TEMPRO trip end forecasts including fuel and income factors

Figure 3.5
 Weekday morning peak trips

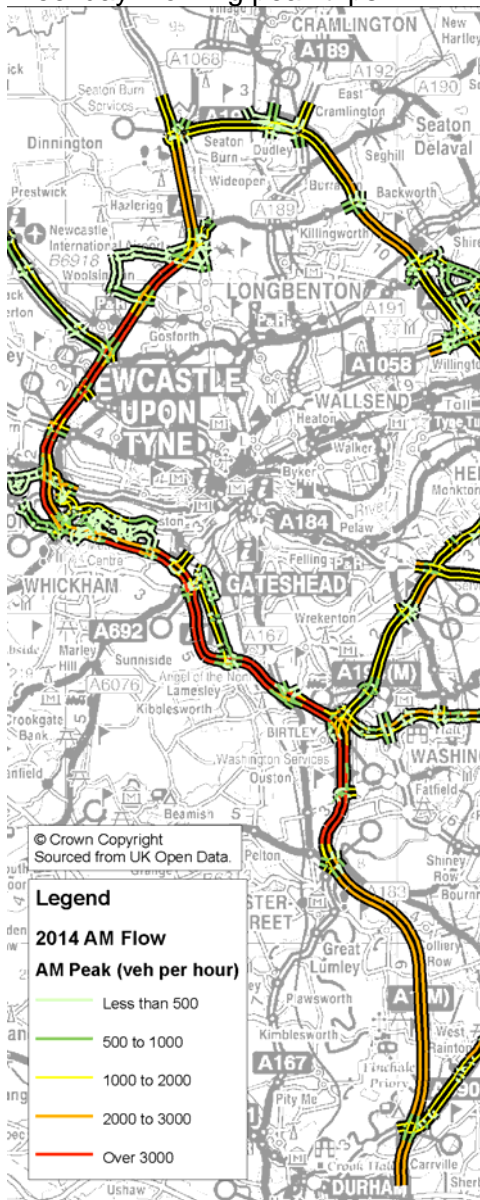
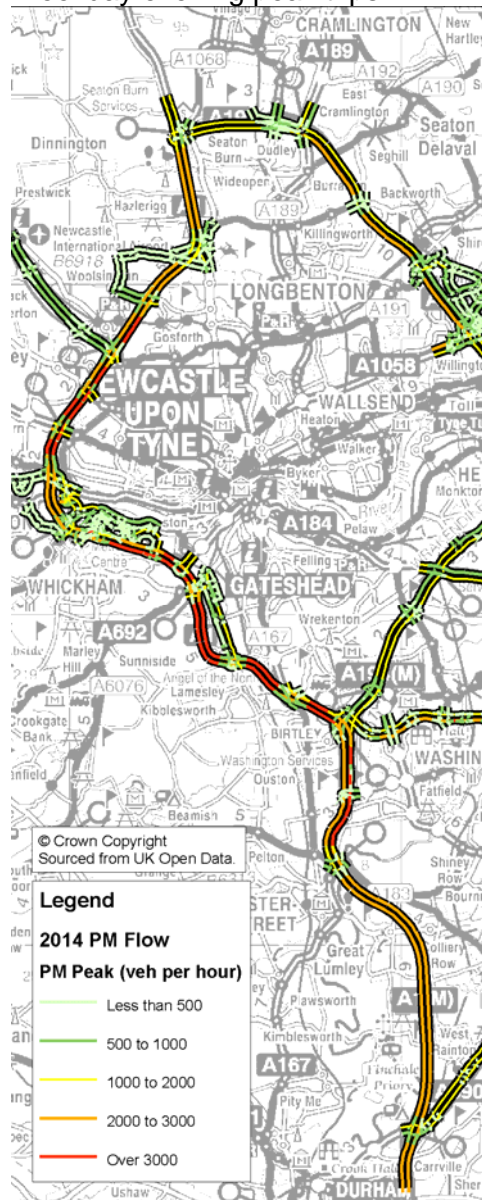


Figure 3.6
 Weekday evening peak trips



Future highways schemes

- 3.2.12 The schemes identified as committed within the assessments undertaken at the respective future years are identified in table 3.1. There are other committed schemes on other parts of the strategic road network in Tyne and Wear; given the coverage of the mesoscopic model their impacts at the strategy corridor are fully considered.

Table 3.1 – committed strategic road route network schemes

Scheme	Assessment Year
A1 / A19 Seaton Burn signalisation	2014
A1 / A69 Denton Burn signalisation	
A1 / A692 Lobley Hill signalisation	
A1 Dunston – 3 lanes through junction	
A1 Eighton Lodge to Derwentaugh 50mph limit	
A1 / A19 Seaton Burn Pinch Point programme scheme	2019
A1 / A184 Lobley Hill	
A1 Ponteland Road – Kingston Park – North Brunton: (committed Section 278 Improvements)	

Wider transport developments

Strategic road network

- 3.2.13 On the strategic road network, a number of recent developments and future proposals have the potential to affect the route. Those on the A1 have potential to increase the relative attractiveness; those on the A19/194(M) may reduce it.
- 3.2.14 On the A1 to the south of the study the recently opened upgrade to dual 3-lane motorway between Dishforth and Leeming Bar will increase the attractiveness of the A1 corridor for long distance strategic journeys. As the scheme has opened recently, it is not possible to quantify the scale of this impact. Also announced within the Chancellor's statement was the scheme between Leeming Bar and Barton which, due to timing, network coverage and unknown outcomes, is also not modelled as part of this strategy.

Local road network

- 3.2.15 On the local road network there are a number of proposals with the potential to impact on the corridor. The most significant is the proposal for a dual carriageway running between the A69 at Throckley and the A1 at North Brunton. This road is proposed in relation land to the west of Newcastle, to provide access to potential

future development, principally housing. These proposals are in the formative stages and should be considered as part of future strategy development.

Public transport

- 3.2.16 The Tyne and Wear local transport plan includes a number of public transport schemes with the potential to impact on demand for, and operation of, the route between Carrville and Seaton Burn. While these schemes are aimed at making public transport more attractive and remove vehicle kilometres from some of the more congested stretches of the road network, all may influence the demand to travel via the A1. However, as such proposals are also in their formative stages their potential outcomes have not formed an input into this strategy's development.

3.3 Future network conditions at 2014

- 3.3.1 Figures 3.7 and 3.8 provide a visual indicator of the weekday morning and evening peaks' operation. Plotted is the 'delay ratio'; this is a ratio of time taken to travel a section of road in the model compared to free flow conditions.

Figure 3.7
 2014 weekday morning peak

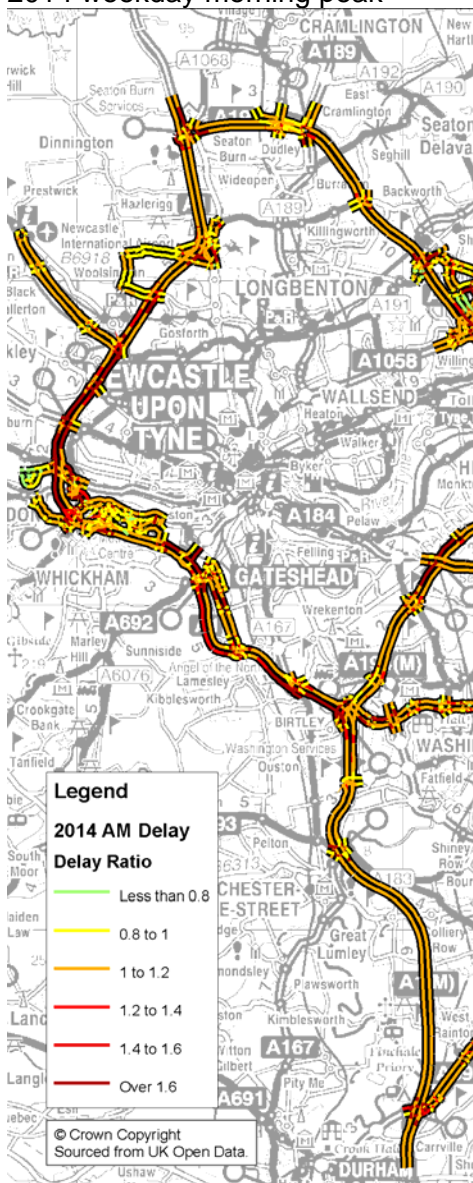
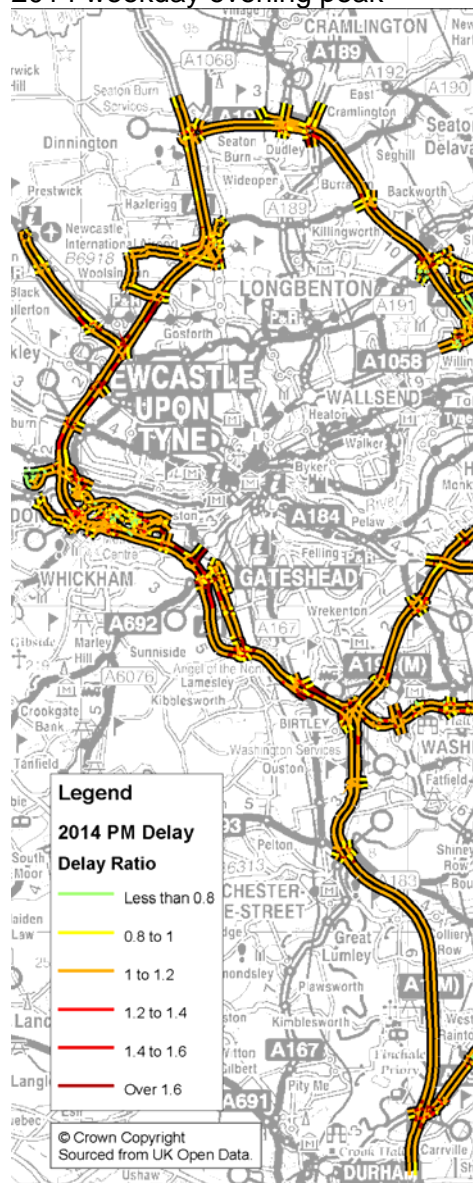


Figure 3.8
 2014 weekday evening peak



Key and critical locations – weekday morning peak

- 3.3.2 There are delays northbound approaching A1(M) junction 65, these queues fluctuate in length between the bifurcation and A1(M) junction 64.
- 3.3.3 Immediately downstream, delay is experienced on approach to junctions from **Eighton Lodge to Lobley Hill**, with varying degrees of severity.
- 3.3.4 Delay is apparent approaching **Derwenthaugh** and **Denton Island**, extending back to **Swalwell**.

3.3.5 In the southbound direction there are sporadic pockets of delay at **North Brunton** and **Kingston Park**. Downstream approaching **Denton Island** and further downstream at **Lobley Hill** longer stretches of delay occur. South of Lobley Hill traffic operates at, or close to, free flow.

Key and critical locations – weekday evening peak

3.3.6 The major area of flow breakdown occurs on the southbound carriageway, in the vicinity of **Lobley Hill**.

3.3.7 There is also a secondary area of flow breakdown on the southbound carriageway in the **Eighton Lodge** area.

3.3.8 Northbound, the most notable issue is the area between **A1(M) junction 65** and **Coalhouse**.

3.3.9 Further north the key area of stress is between **Scotswood** and **Denton Island**.

3.4 Future network conditions at 2019

Key network changes

3.4.1 The following schemes are included in the 2019 network:

- A1/A19 Seaton Burn Roundabout: Pinch Point scheme
- A1 Ponteland Road – Kingston Park – North Brunton (committed Section 278 improvements)
- A1/A692/A184 Lobley Hill: major scheme

3.4.2 In addition, urban traffic management control on approach to, and at, selected junctions has been incorporated with adjustments to signal timings made where necessary.

3.4.3 Figures 3.9 and 3.10 provide a visual indicator of the weekday morning and evening peaks' operation, in terms of delay ratio.

Figure 3.9
 2019 weekday morning peak

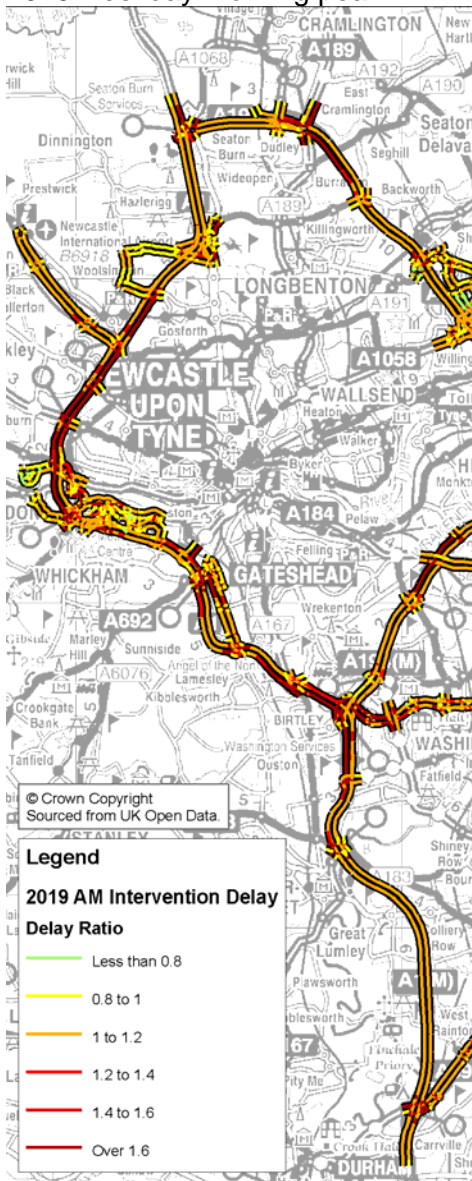
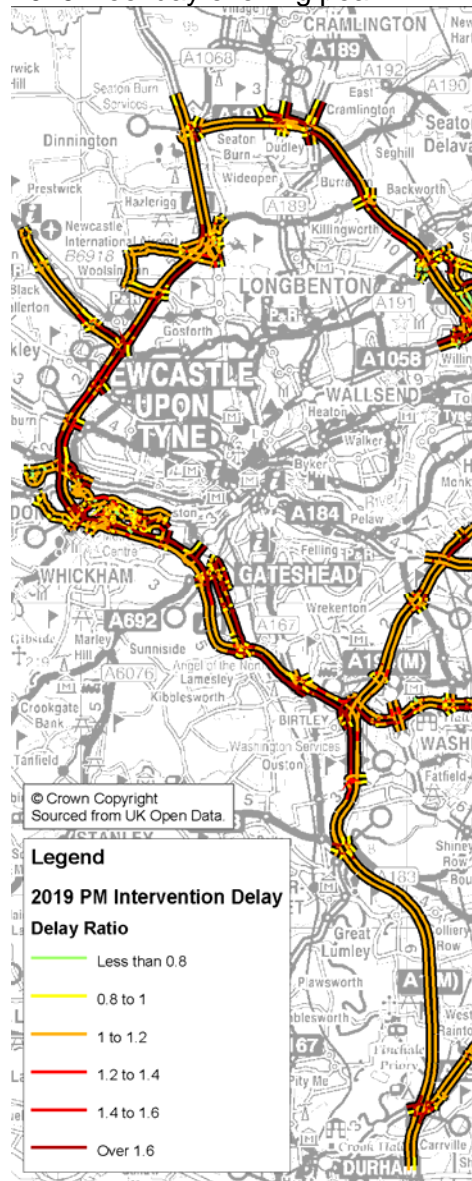


Figure 3.10
 2019 weekday evening peak



3.4.4 The analysis suggests that the Section 278 scheme currently conditioned in association with the Great Park development may not be the most effective, especially in light of the known proposed changes to the development's land use. In response, the Highways Agency has programmed further exploration of the potential to provide modified improvements within the area of the conditioned works (early within 2013) which may be more effective and represent better use of developer contributions.

3.4.5 As the outcomes of this work is unknown at this time it has not been possible to incorporate such within the route-based strategy, with the interventions considered here maintained as the currently conditioned improvement scheme.

Key and critical locations – weekday morning peak

3.4.6 In the 2019 forecast year the network operates under considerable strain, although in some areas conditions are eased somewhat by the identified interventions.

3.4.7 Northbound sections of the network show considerable delays along long sections of the route, in particular from **A1(M) junction 65** to **Coalhouse** and from the **River Tyne** to **Denton Island**. The **Lobley Hill** major scheme bid provides significant operational benefits.

3.4.8 Southbound there is a significant stretch of flow breakdown between **Ponteland Road** and **Denton Island**. This regulates the downstream flow so that the only other issues evident are slight delay approaching the **A184 / Lobley Hill** section.

Key and critical locations – weekday evening peak

3.4.9 With removal of weaving by the major scheme, the issues at **Lobley Hill** now emanate solely from the southbound merge, with the queuing extending back to the Metro Centre.

3.4.10 Partial signalisation at Coalhouse, Eighton Lodge and at the eastern roundabout at the A1231 complex have improved conditions southbound in this area.

3.4.11 Widening between **Ponteland Road** and **North Brunton** has alleviated some of the issues in this area, and relocated others.

3.5 Future network conditions at 2029

Network changes

3.5.1 There are no major network changes assumed in this scenario between the 2019 network and 2029. However, adjustments to signal timings were made where necessary. Figure 3.11 and 3.12 provide a visual indicator of the weekday morning and evening peaks' operation.

Figure 3.11
 2029 weekday morning operation

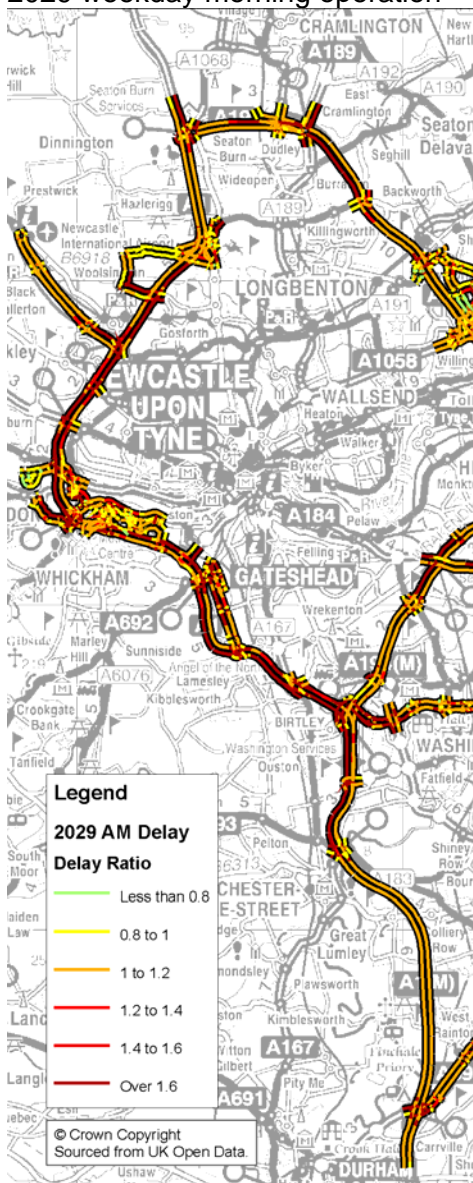
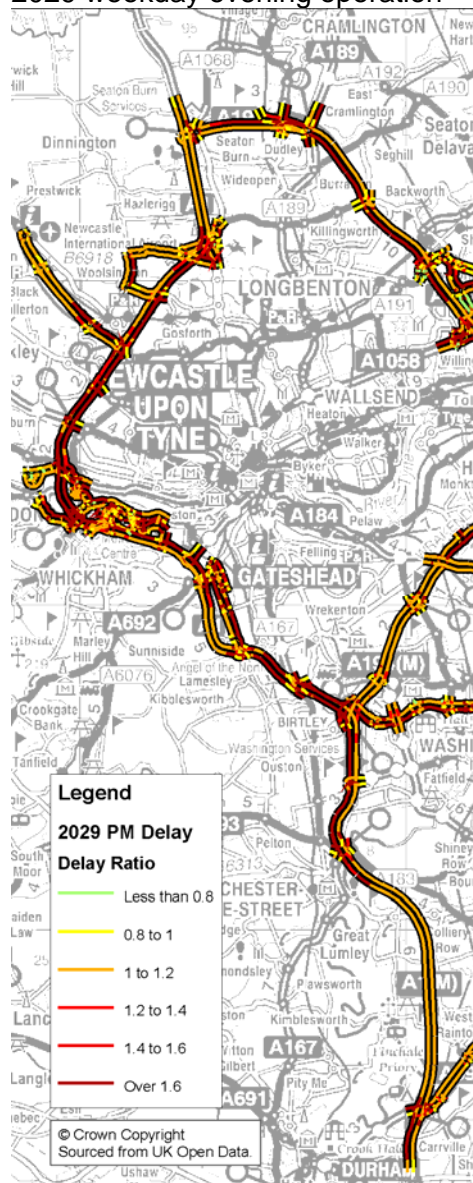


Figure 3.12
 2029 weekday evening operation



Key and critical locations – weekday morning peak

3.5.2

The network operates under considerable stress in 2029 without further interventions post 2019. Large sections of the A1 demonstrate severe flow breakdown, low traffic speeds and long queues when subject to the forecast level of growth.

3.5.3 Conditions in the northbound direction are particularly severe with a long section from the **A1(M) junction 63** through to **Lobley Hill** operating with significant delays, after Lobley Hill severe queuing stretches from **Metro Centre** to **Stamfordham**.

3.5.4 Conditions on the southbound carriageway are only slightly better with severe delays between **North Brunton** to **Denton Island**. Other sections of network are under stress; between **Derwentaugh** and **Lobley Hill** and approaching **Eighton Lodge**.

Key and critical locations – weekday evening peak

3.5.5 The critical southbound issue emanates from the **Lobley Hill** area, with the area of queuing extending back across the River Tyne through to **North Brunton**.

3.5.6 There are also issues between **Eighton Lodge** and **A1(M) junction 65**, with queuing extending back to Coalhouse.

3.5.7 Northbound, queues extend back from **Coalhouse** through to **A1(M) junction 64** and along the A1231 and from **Denton Burn** back to **Swallowwell**. There is also reduced throughput at **North Brunton**.

Potential future investment

3.5.8 The analysis identifies that investment could be justified covering the whole route between A1(M) junction 65 and North Brunton. However, given constraints on deliverability, and to tie in with planned maintenance schemes over the period, a number of locations where further study is warranted have been identified. The key locations where future investment would be warranted in response to increasing demand are identified as:

- Derwentaugh
- Allerdene Bridge

The anticipated replacement of these structures offers windows of opportunity to explore network enhancements within these areas.

- Eighton Lodge
- Coalhouse – Lobley Hill

3.5.9 In addition, the rolling programme urban traffic management control offers the opportunity to also explore access control at selected junctions as the strategy is developed and planned development comes forward.

3.6 **Future route requirements and performance**

3.6.1 Even with the potential to identify and implement measures by 2029, the forecast growth in traffic will result in the route as a whole being subject to operational difficulties. On the basis of current land use proposals and phasing, the critical areas noted for further examination beyond the period of this strategy are identified as:

- A1(M) junction 65 northbound to Eighton Lodge
- North of the River Tyne between Scotswood and North Brunton
Conditions between Denton Island and Scotswood may be exacerbated further should the A69/A1 link road between North Brunton and Throckley move forward.
- Dunston Road interchange
- Stamfordham Road interchange
- Kingston Park interchange

4 Route strategy

4.1 Overview

4.1.1 This chapter outlined the strategy for investing in the route and also includes the next steps and how it is envisaged that the strategy will be taken forward.

4.1.2 Discussed in more detail later in the section, the key outcomes are:

- Identification of areas of the network where the metrics for the corridor have suggested further examination would be beneficial;
- Locations where consideration should be given to the targeting of measures responding directly to forecast traffic growth and Local Development Framework land use aspirations;
- Identification of the potential implications at the adjacent local road network, to advise regional partners as to where complementary measures should look to be targeted;
- Areas where the strategy would benefit from further development; and
- Recommendations as to future considerations, in terms of scheme identification, further studies and complementary measures.

4.1.3 In addition, to improve network management, should any of the areas identified as locations for potential future funding move forward to scheme identification it is recommended that as part of the design process consideration be given to the installation of:

- Closed-circuit television cameras;
- MIDAS;
- Variable message signs;
- Observation points, where possible; and
- Identification of additional lay-by provisions.

4.1.4 It should be noted that the delivery of interventions, particularly towards the future horizon are considered challenging within the timeframe of this strategy, given roadwork space limitations, finance notwithstanding.

4.2 Basis of strategy development

4.2.1 This strategy has been developed on the strength of previous engagement between the Highways Agency and regional stakeholders. In this regard this initial strategy responds directly to economic growth, through identifying where investment is required (to support decision making to ensure the strategic road network meets this objective).

4.2.2 The identified areas for potential future funding have secondary benefits in terms of continuing to:

- manage journey time reliability and safety performance; and
- maintaining a resilient asset.

4.2.3 However, even considering the potential benefits that could arise from future investment at the identified critical locations, there are implications at the local road network that need addressing for these benefits be realised in full.

4.3 Network enhancements

4.3.1 Much good practice is currently in place with the aim of maintaining and improving the management, operation, and resilience of the corridor. Despite this, future investment is considered necessary in order to support economic growth.

Constraints and deliverability

4.3.2 In the development of this strategy the Highways Agency has been mindful of the current economic climate and the likely deliverability of proposals. The timetabling of investment needs also to consider the inevitable disruption to existing network users.

Prioritisation

4.3.3 In prioritising potential investment, locations of most need have been established by utilising the modelling output through the identification of critical locations, with the aim of supporting economic growth across the region. In response to the potential impacts for the strategic road network resulting from these aspirations, in line with forecast traffic growth, this strategy seeks to align these aspirations with the prioritisation of areas of potential future investment.

4.3.4 However it is recommended that this document remains a live document so that it can evolve as local priorities and plans change over the life of the strategy.

Time horizons

4.3.5 Three network capacity enhancement schemes are to be delivered by 2019 these are:

1. Seaton Burn Pinch Point programme scheme
2. Lobley Hill – Askew Road major scheme
3. Great Park Section 278 agreement works between Ponteland Road, Kingston Park and North Brunton

4.3.6 In addition, elements of the rolling programme of urban traffic management and control offer an opportunity to consider operational enhancement and access control at a number of locations.

4.3.7 Since the time the conditioned Great Park Section 278 agreement works scheme (Ponteland Road - North Brunton) was identified travel patterns and improvement options have changed, it is believed that alternative interventions may have benefit and be more cost-effective. The examination of alternative provisions is programmed for the start of 2013; the Highways Agency is also exploring the options regarding the currently anticipated funding to ensure best use of those available.

4.3.8 The Lobley Hill scheme is a key piece of infrastructure in the strategy to deliver a route that provides support for economic growth in the region, and improves access not only to the development sites along the corridor, but also into the centres of Newcastle and Gateshead, which are also key growth areas and are subject to demands for travel across the region (principally Northumberland and Durham).

4.3.9 However, it is clear from the assessment that the Lobley Hill scheme on its own will not result in the eradication of all issues within this stretch of the A1 but it does represent significant capacity relief at the principal bottleneck within the study corridor.

2029 strategy horizon

4.3.10 The Highways Agency has identified four critical areas for further investigation of potential investment for the corridor and will seek to continue a programme of intervention identification with its partners. The areas of further examination have been prioritised for this route-based on need and deliverability:

4. Southbound through Eighton Lodge

5. Coalhouse to Lobley Hill

4.3.11 The rolling programme of urban traffic management control offers further opportunity to consider operational enhancement and access control at a number of locations into the future horizon.

4.3.12 Take into account maintenance plans for the route opportunities also exist in relation to:

6. Allerdine Bridge replacement, and associated provisions between Eighton Lodge and Coalhouse

7. Derwentaugh Bridge, and associated Swalwell Slips

4.3.13 The schemes proposed for this period are predicated on, and take advantage of, the planned replacement of the Dewentaugh and Allerdine bridges, two key structures on the A1. Both are in need of major works, and it is currently considered that it is likely to be uneconomic to maintain the existing structures beyond the current future strategy horizon, but further study is ongoing.

4.3.14 The locations of these critical structures are shown in figure 4.1.

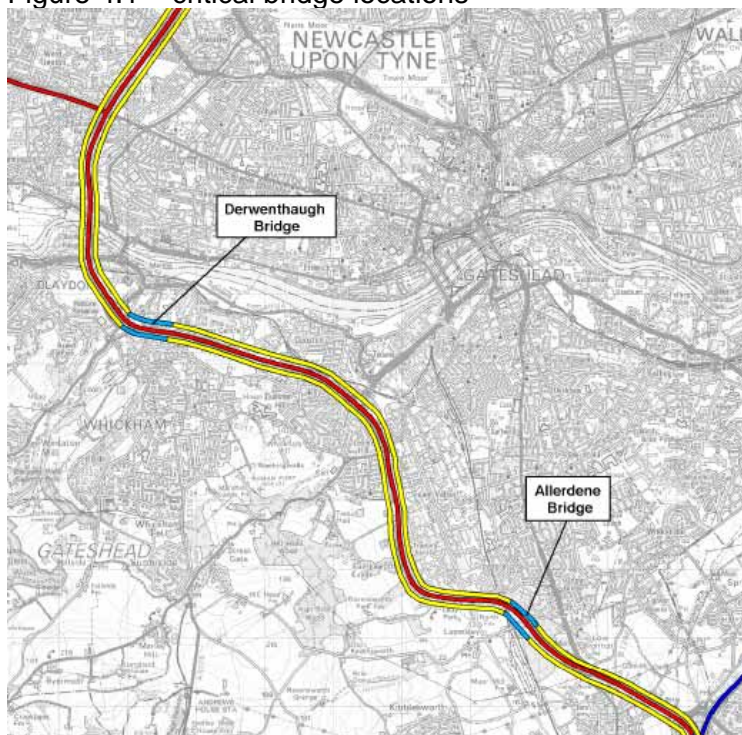
Beyond 2029

4.3.15 Noting the uncertainty regarding the replacement of these structures, there exists the potential for investment here to move beyond the strategy's current horizon, or to explore the need for interim interventions that could be realised in the medium term.

4.3.16 The assessment of route operation, even given the implementation of interventions, identifies that capacity would remain an issue when subject to the forecast level of future traffic growth.

4.3.17 The increased throughput also means more traffic wishing to leave the A1 raises concerns about the capability of the local network to accommodate these additional flows. Therefore, complementary local highway modifications allied with further sustainable travel proposals would be necessary if any potential benefits at the A1 corridor are to be fully realised or not undermined by these local network restraints.

Figure 4.1 – critical bridge locations



Conclusion

- 4.3.18 The key issue for the route is lack of capacity to cope with current demands. This is perceived by stakeholders as harmful to the growth of the local economy.
- 4.3.19 The history of the route means that its role for local traffic predates the strategic role subsequently placed upon it, and presents challenges in managing the route for strategic traffic. The constrained nature of the corridor and difficult topography makes wholesale upgrading prohibitively expensive and would not necessarily solve, and could potentially compound, these issues.
- 4.3.20 The rolling strategy of potential investment presented in this draft strategy is aimed at managing the predicted degradation in network operation. The volume of local over longer distance traffic that dominates the network particularly in the weekday peaks means that the strategy beyond 2019 must look more widely than the strategic road network itself. As such, integration with the surrounding local network is key and recommended as a further outcome of this strategy's development.

4.4 Integration with other networks

- 4.4.1 Successful modal integration has the ability to reduce operational pressure on the route by providing attractive alternatives for part of a journey and respond to

concerns expressed previously, at ministerial, level that capacity enhancements on the A1 would only serve to improve conditions for local trips.

- 4.4.2 As noted in section 3, the Tyne and Wear local transport plan includes a number of public transport schemes with the potential to impact on demand for, and operation of, the route between Carrville and Seaton Burn. While these schemes are aimed at making public transport a more attractive, and remove vehicle kilometres from some of the most congested elements of the road network, all may influence the demand to travel via the A1.
- 4.4.3 An aspiration of local authorities is the reinstatement of the Leamside rail corridor between Pelaw in Gateshead via Washington, Carrville through to the East Coast Mainline south of Durham. Local services from Darlington would run via the line into Newcastle.
- 4.4.4 Not only does this have the potential to transfer travellers from the route corridor itself but, through the rerouting of freight from the East Coast Mainline, could free up paths for more local services between Durham, Chester-le-Street and Newcastle. These local services could potentially serve a reopened Low Fell Station, providing a direct linkage into the wider rail and Metro system.
- 4.4.5 The local transport plan partners are developing bus based major scheme business cases promoting schemes for a number of corridors including:
- A167 Durham Road in Gateshead
 - A186 West Road in Newcastle
 - B1318 Great North Road in Newcastle
- 4.4.6 While these schemes are aimed at making public transport more attractive, and remove vehicle kilometres from some of the most congested stretches of the network, all may influence the demand to travel via the A1 should they involve capacity reduction for general traffic at the local highway, or the re-routing of existing trips.
- 4.4.7 It is important that the implications of schemes on roads which are parallel, or connect, to the strategy route are considered in terms of potential displacement of both current and future traffic. This should be the case even where they have the aim of encouraging modal shift.

Development of a multi-modal transport model to appraise schemes

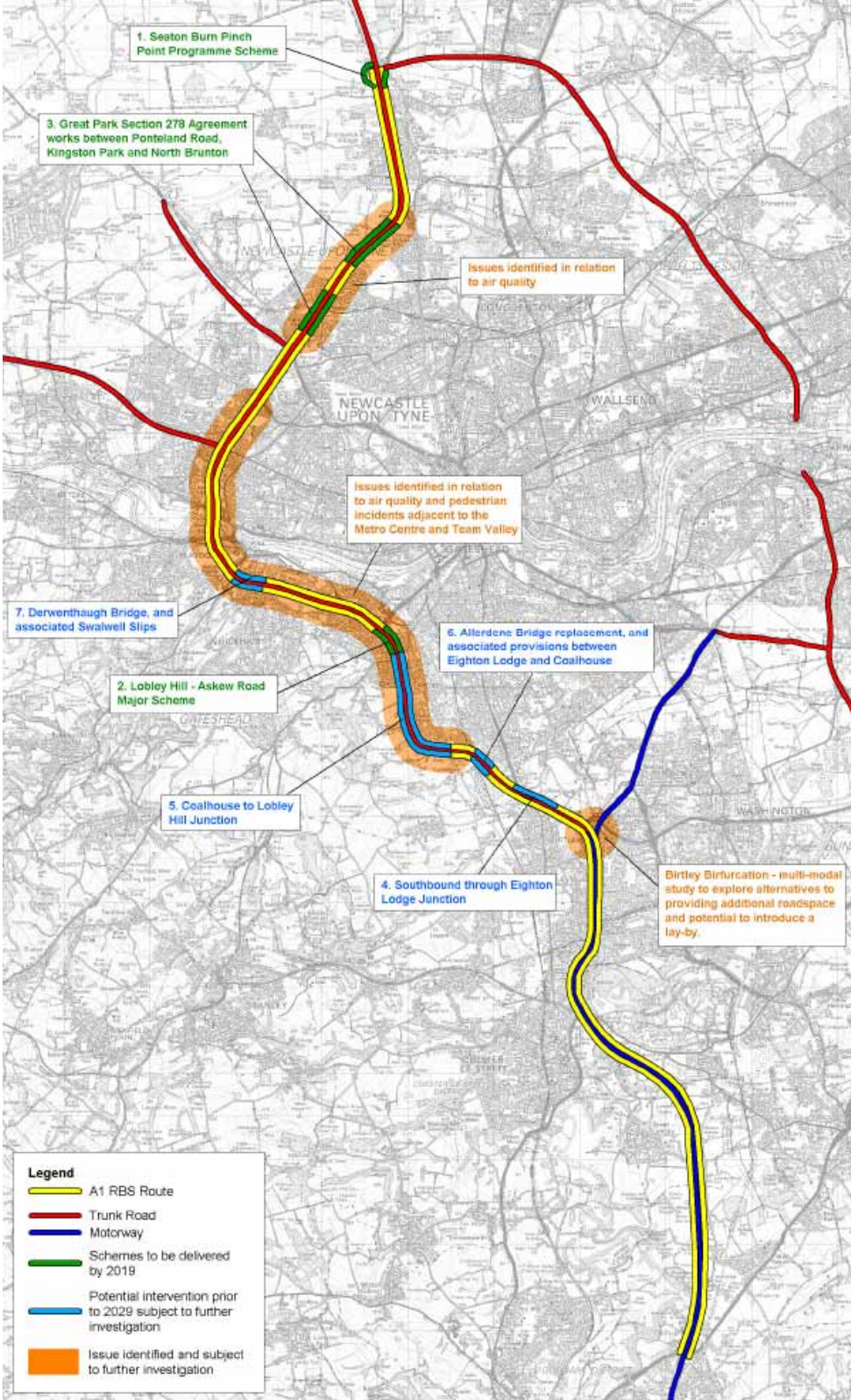
- 4.4.8 In order to support any integration or intervention measures, robust modelling and appraisal processes following best practice will be required. The Highways Agency's mesoscopic model does not include any alternative to road based travel, and has been developed purely for the purpose of assessing highway operation.
- 4.4.9 The regional macroscopic model is the Tyne and Wear transport planning model version 3 (TPM3). This is a full multi-modal model, and would appear to offer a platform to advise the appraisal of schemes. However, depending upon the scale and coverage of subsequent studies it may be preferable for bespoke multi-modal models of the route corridor to be commissioned, so as to produce a robust outcome.
- 4.4.10 Through either approach the limitations of macroscopic models outlined in Annex A would remain apparent. Therefore, in terms of identifying operational outcomes at the strategic road network these would need to be advised by, and provide input to, the Highways Agency's mesoscopic model to ensure a robust solution is identified.

4.5 Next steps and taking the strategy forward

- 4.5.1 The outcomes of this strategy are illustrated in figure 4.2.
- 4.5.2 There are areas of this initial strategy where it is accepted that further development is required and where further exploration of certain issues would be beneficial. In terms of taking this strategy forward the following are identified as matters that required further exploration:
- consideration of the pedestrian incidents within the vicinity of the Metro Centre and Team Valley areas;
 - consideration of the air quality modelling outcomes and implications;
 - consideration of the investment potential north of the River Tyne between Scotswood and North Brunton, incorporating development of alternative scheme options associated with the Great Park development;
 - revisitation in response to changes in development potential and delivery (such as Durham's local development framework and the potential additional housing and associated link road west of Newcastle);
 - consideration of the bridge replacement programme's implication on this strategy's indicative programme; and

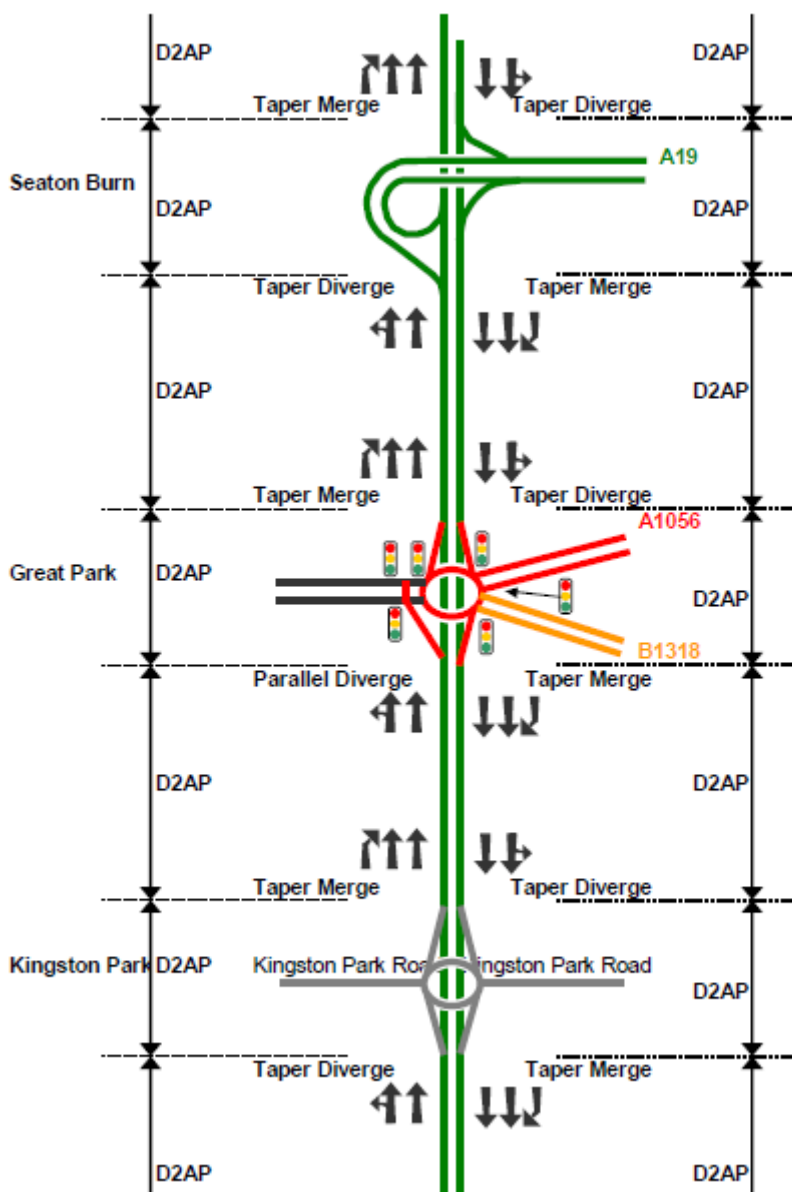
- potential to identify a medium term intervention within the vicinity of Lobley Hill and Coalhouse, towards the end of the strategy's timeframe;
- A1(M) junction 65 northbound to Eighton Lodge, associated with
- further investigation of the operation of the network within the vicinity of Birtley Bifurcation, allied with a multimodal study to explore a range of alternatives to the provision of additional road space;
- continued dialogue and engagement with regional stakeholder in response to the need to identify a programme of complementary interventions addressing local road network capacity restraints if the potential benefits that could arise from future investment at the A1 are to be realised in full.

Figure 4.2 strategy outcomes

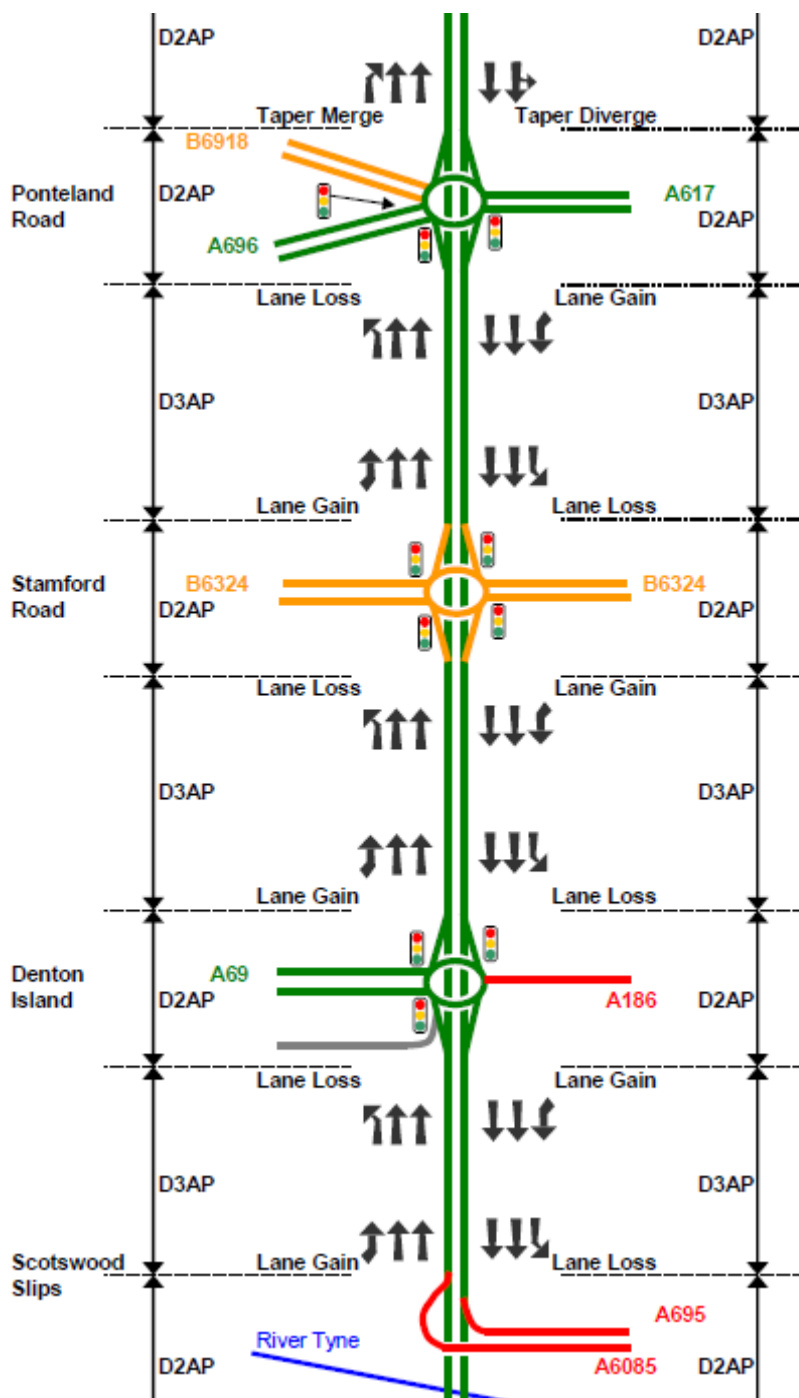


Annex A – route provisions

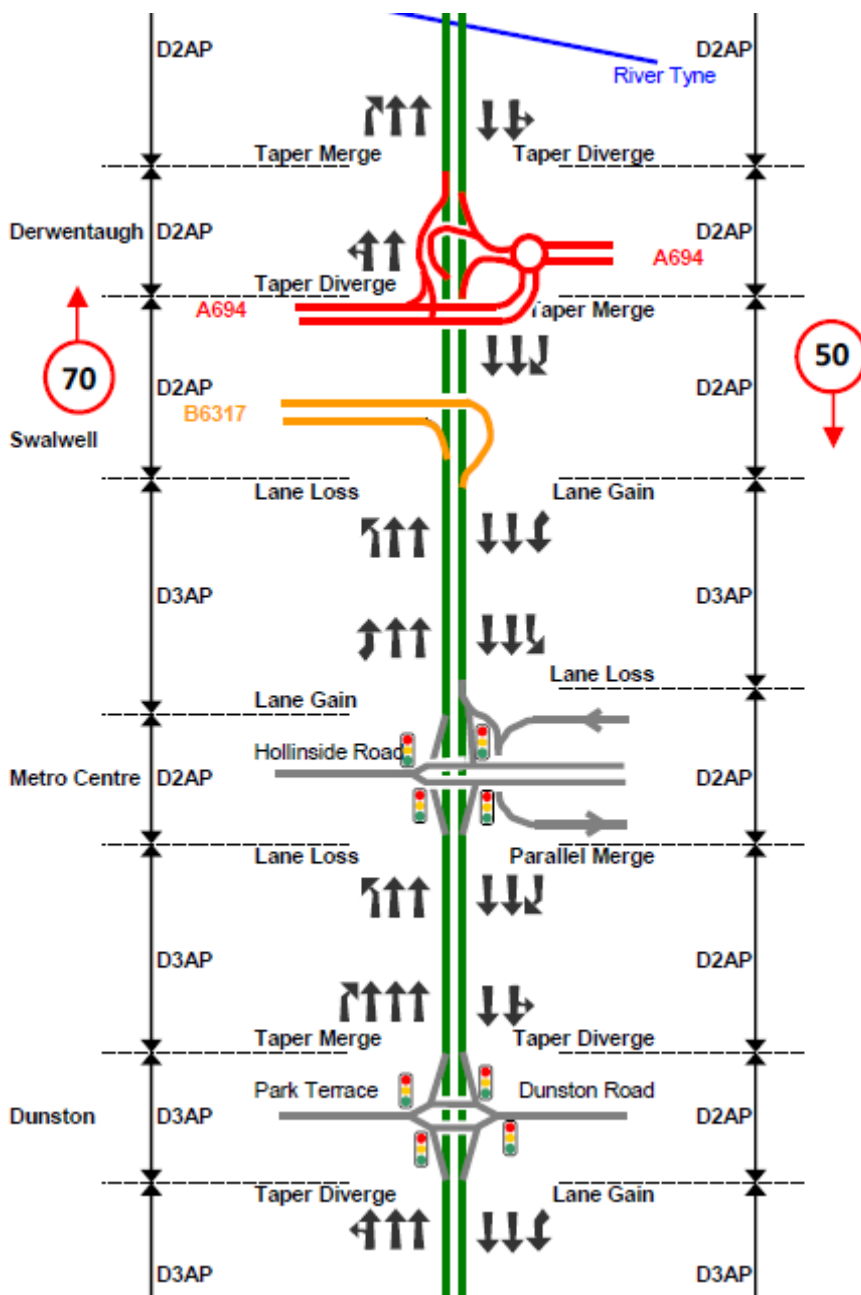
Route provisions: Seaton Burn to Kingston Park



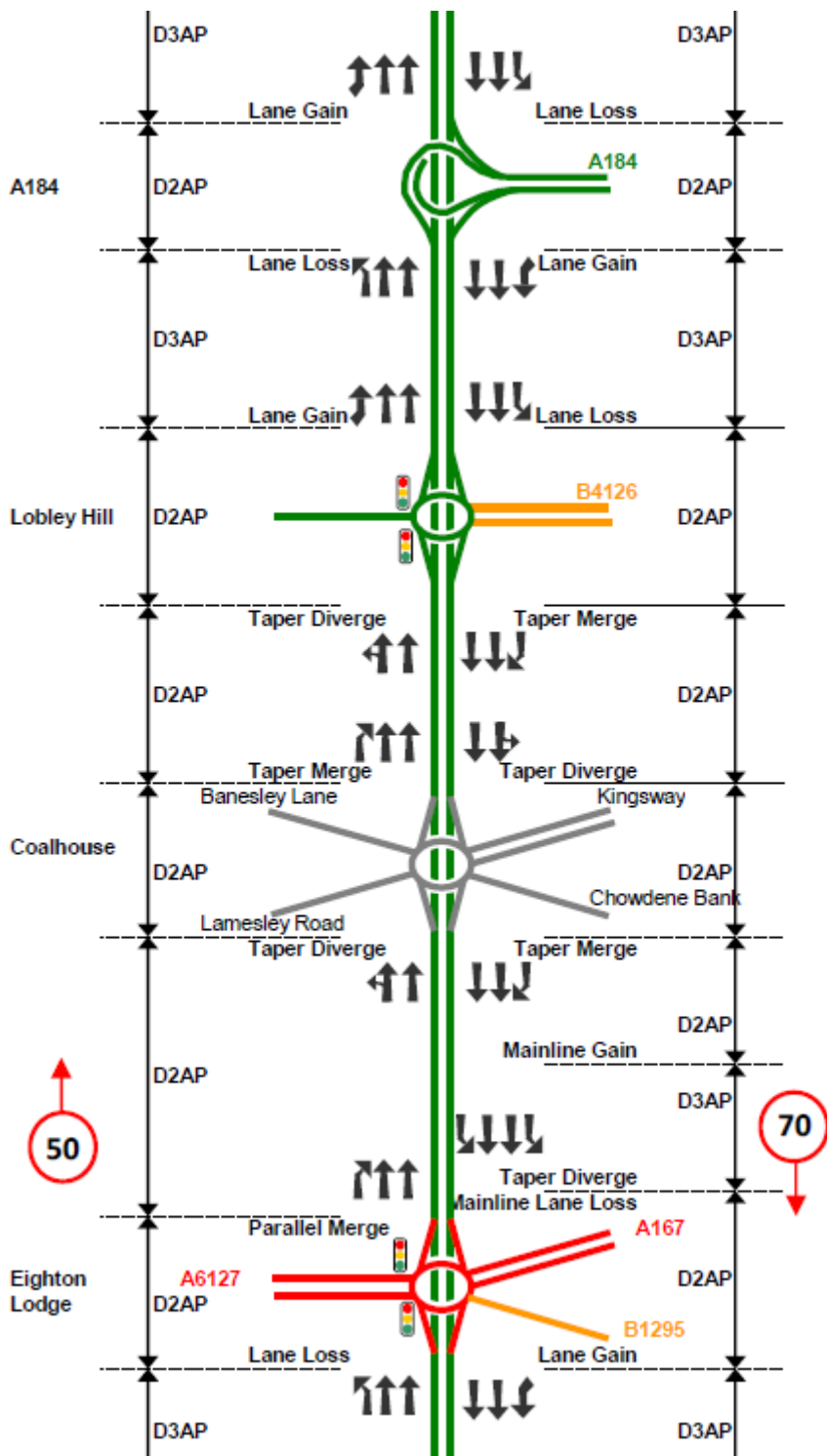
Route provisions: Ponteland Road to Scotswood



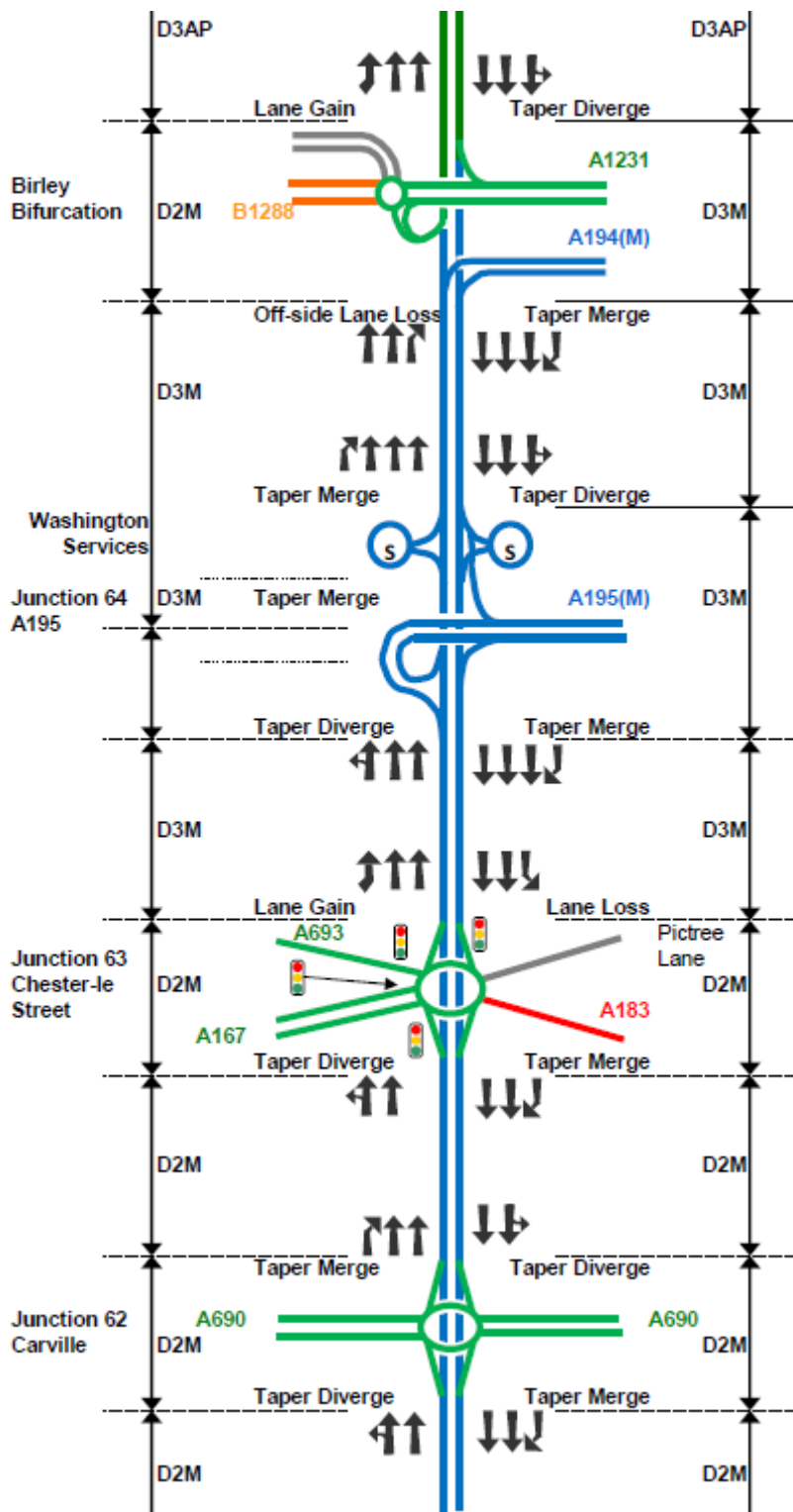
Route provisions: Derwentaugh to Dunston



Route provisions: A184 to Eighton Lodge



Route provisions: Birtley to Carville



Annex B – mesoscopic modelling

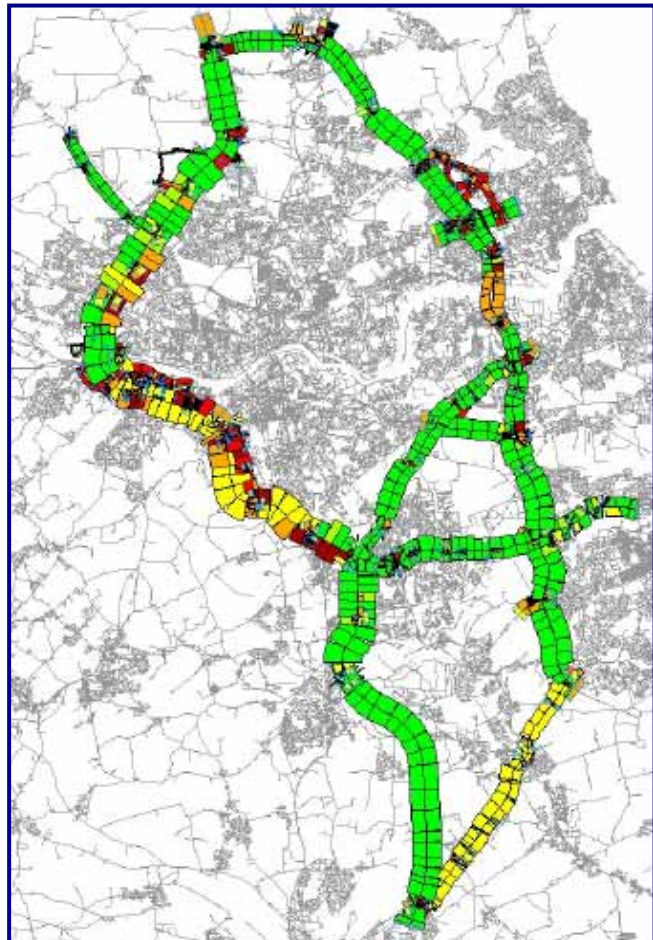
Overview

The current and future operation of the route has been informed by the Highways Agency's mesoscopic model for Tyne & Wear and Durham. Traditionally there have been two approaches to testing highway network performance: macroscopic and microscopic modelling.

While macro modelling techniques are capable of dealing with large scale networks, they do not always effectively replicate traffic behaviour such as weaving, merging and differential lane uses, all of which influence the operation of a network. Conversely, while micro modelling do simulate these effects, this approach is not particularly suitable for dealing with large networks and does not deal with the potential wide area reassignment which can occur.

Sitting at a level intermediate to the two approaches, mesoscopic models have the ability to deal with such issues in a single platform and are proving to be capable of reflecting existing conditions in a much more realistic manner than other model currently available. The development and use of this modelling technique has, as with the automatic number plate recognition surveys noted in this report, proved a valuable asset to the Highways Agency in the exploration of a number of issues.

For the purpose of the assessments advising this strategy's development a sub-model has been extracted from the wider Tyne and Wear and Durham model, to improve run times and data management; the extent of the sub-model's network coverage is as shown above.



Annex C – stakeholder workshop

The following provides a summary of the key aspects of the round table discussion following the Highways Agency's presentation at the stakeholder workshop was held, on 24 October 2012:

- the Pinch Point programme being an example of how there is a need to be prepared to mobilise quicker in response to money potentially becoming available for scheme delivery, an outcome that the route-based strategy may be a step in the direction of;
- notation that there has been improved joint working, as a consequence of the Highways Agency's approach to the response to the local development framework process;
- reiteration that the route-based strategies were pilots with Ministers' view on the outcomes being an unknown and do not provide any certainty regarding additional funding;
- identification that the Tyne and Wear Integrated Transport Authority's *Go Smarter to Work* proposals were not identified within the presentation's identification of interventions;
- it was stated that the identified interventions were purely a starting point from the Highways Agency's perspective and, for clarity, concentrated on network enhancements but that the proposals have not been disregarded and would be dealt with within the route-based strategy report;
- consideration of complementary schemes: such as urban traffic management and control was recognised but as was also the existing lack of equipment and need installation and upgrade before such could be tied into;
- recognition that the technology is currently absent and that other obstacles exist but that the overcoming of such primarily relate to cost;
- interaction between strategic and local road network: the route-based strategy is aimed at the A1 corridor but there would be consequences for the local highway network, although these would not be explicitly dealt with they would be implicated within the supporting analysis;

- a question regarding the consideration of junction closures within the route-based strategy (in relation to the previous *Delivering a Sustainable Transport System (DaSTS)* study);
- in response it was stated such were not being considered as part of the strategy, but noting that the intervention identified at the Metro Centre constituted the rationalisation of two junctions;
- it was further recognised that some of the current interventions potentially would not provide sufficient ratio of benefit to cost, and would not be known until assessed further;
- the need for synergy between strategic and local priorities was noted, as well as an early indication of programme with it being recognised that a 'big bag' approach would not be realistic or deliverable;
- this was recognised with it being reiterated that the whole of the outcomes would be unlikely to be deliverable within the timescale of the route-based strategy;
- it was also noted that the outcomes may not be prioritised in terms of which provided the best outcome, but which most appropriately addressed priorities;
- this was reiterated in relation to need to maintain operation of the corridor;
- an initial discussion of programming options followed, including:
 - potential to sub-divide individual improvements into work packages to, say, maintain directional operation,
 - funding, specifically in relation to works secured through Section 278 agreement(s),
 - some interventions (Lobley Hill Congestion Relieve scheme being given as an example) benefiting from addressing a 'self-contained issue', which may not be so apparent at other locations,
 - need to consider implication arising remote from improvement as a result of increased / restored throughput, as part of programming, and
 - need to strategy's programme to remain live to land use changes to that interventions responded to actual increased demands as they come on line, rather than initial estimate of delivery;
- how local priorities were to be captured was questioned;

- it was noted that some of this was through the extant liaison but with it also being noted that the views of an Inspector at a local development framework's examination in public could not be pre-empted;
- Local development framework land use data and development profiles advising the route-based strategy was founded on best information available at this time;
- it was noted that a memorandum of understanding was in development between all seven local authorities dealing with housing and employment numbers, to limit disagreement at forthcoming examinations in public associated with local development frameworks;
- the omission of consented improvements at A1(M) junction 62 was noted and identified as simply as a result of area of coverage of the plan itself;
- the mesoscopic model and its future development / expansion, specifically in relation to the local highway network and examination of UTMS, was discussed with it being noted that the primary issue being the availability and cost of data to populate an expanded model;
- however, it was noted that a series of surveys were in hand with the data anticipated to be shortly available for the consideration of such;
- it was questioned how and if the views of city leaders would be sought in response to the draft strategy, particularly in relation to achieving local endorsement, particularly as those involved with signing off the City Deal would not be privy to the route-based strategy's outcomes;
- it was noted that it was not within the Highways Agency's remit to release an early draft of the strategy prior to a Ministerial view being obtained, however, it was also recognised that Ministers would not wish to see local issues being induced; it was questioned whether an informal discussion would suffice;
- it was proposed that this issue be identified within the pilot's report itself, as outlined above, so that it could be considered as a matter that requires consideration as part of the development of future route-based strategies, accepting that it may not be an issue in other areas;
- a reiteration of the strategy's challenging timescales with the need for any feedback to be provided for incorporation into the draft document in November

- identification that the challenging timetable was in part as a result of these being pilots and there existing a need to explore how to undertake such nationally; there would be differences between each but it was anticipated that there would be an opportunity to the refine the final strategy subsequently;
- the potential differences were reinforced with reference to previous engagement and the existence of notation as to the scale of intervention required, through the Highways Agency's local development framework infrastructure studies.



The person dealing with this matter is:
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30th October 2012

Dear Vanessa,

A1 route based strategy

Further to the useful workshop event held in Newcastle on 24th October concerning the above, we are writing to set out further our views on the priorities and approach for the strategy. The engagement is particularly welcome given the critical economic importance of the A1 to the Gateshead and Newcastle areas. The area served by the A1 in this area includes key regional locations for employment (notably Newcastle City Centre and Team Valley Trading Estate) and services (again Newcastle City Centre and the Metro Centre) as well as major residential areas. As such, very large numbers of jobs in the area already depend on the route, and its future effectiveness will be crucial to the successful realisation of economic growth and new house building across large parts of the North East.

There was consensus at the workshop that, in terms of major improvements, the proposals at Lobley Hill are of primary importance. These are critical in removing the major problems caused by weaving traffic at this location, thereby enhancing performance of the route through much of Tyneside. The agreement of the Newcastle City Deal further signifies the importance of this proposal.

The other major works on the route, such as those relating directly to Newcastle Great Park, may have potential for significant external match funding which will help to accelerate the delivery of improvements and, in particular, to deliver detailed designs for schemes to bring them forward. Likewise, in terms of programme management, it may be possible to deliver works south of the river (following on from the Pinch Point scheme) earlier or potentially alongside the Lobley Hill solution, to minimise disruption on the network. Those at Eighton Lodge and Swalwell are of lower priority than Lobley Hill, though there may be merit, especially in minimising overall disruption due to construction, to looking at whether implementation of the Lobley Hill and Swalwell works should be co-ordinated.

We would concur with the view expressed at the workshop that major improvements in the vicinity of the bifurcation should be of lower priority. In practical terms, the lack of any obvious scheme to improve this location makes it unlikely it could be brought forward quickly. In addition, releasing capacity at this location before problems further north along the route are resolved is only likely to worsen problems at those locations.

We would see UTMC as having a potentially important role to play in managing demands on the route in the longer term. Given the large amounts of local traffic using the A1, especially at peak times (a figure of 98% was quoted at the workshop), it will be essential any measures are linked closely to Tyne and Wear's developing UTMC system. However we are strongly of the opinion that before any substantive measures are implemented there is a need to understand better the consequential impacts on the local road network from any proposals.

In terms of the large number of more minor schemes discussed, these too can be prioritised in their own right. However, it may be beneficial to deliver some of these prior to or immediately after the larger schemes to realise all of the potential benefits they can offer individually or in combination with the larger scheme proposals. In fact, it may make sense to design up early some of these lower cost schemes on both sides of the river to deliver quickly if funding becomes available from underspend on the strategic road network elsewhere in the country providing, of course, they would improve the operational efficiency of the A1.


One area we would wish to see given emphasis in the strategy is the importance of complementary local measures in supporting more effective operation of the A1. In some cases there may be local measures which are more cost effective in improving conditions than works on the A1 itself – the possible new crossing of the Tyne in the vicinity of Metro Centre/Benwell may come into this category. There may also be some measures (for example the park and ride at Eighton Lodge and Scotswood Road) which could play an important role in providing alternative transport during the disruption caused by any construction works. How national and local funding streams can work best to mutual effect in this regard is something which needs considering further in the strategy process. Should the measures now being implemented as part of the LSTF funded 'Go Smarter To Work' initiative prove successful, there should be similar attention paid to how their effectiveness might best be sustained following cessation of funding.

May I also request that the signage strategy for the whole of the route needs to be part of this work. Although a relatively cheap capital investment, this may well provide significant relief to local congestion hotspots by directing unnecessary trips onto local roads.

I hope the above is of use to you drafting the strategy. Given the short timescales they can only be given as informal officer comments at the current time, but we do feel they provide a good basis for taking this work forward. Should you have any queries regarding the contents of this letter, or wish to discuss it further, we would be happy to assist you.

We look forward to our continued joint working in improving the performance of this route upon which so many people and so much economic activity depends.

Yours sincerely



Nick Clennett
Head of Transport Strategy
Gateshead Council



Harvey Emms
Director of Housing, Planning and Transport
Newcastle City Council

Annex D – local development framework overview

Local Authority	Headline Summary
Newcastle	<p>Development plan status</p> <p>Consultation on the One Core Strategy and Urban Core Area Action Plan submission draft is expected to take place during winter 2012.</p> <p>Background</p> <p><i>Proposed major changes report</i> (June 2012) indicates that a joint population of around 500,000 people (297,800 in Newcastle and 202,100 in Gateshead) will still be achieved, but rather than a growth in the working age population there will instead be a decline with 7400 fewer working age people (-5800 in Newcastle and -1600 in Gateshead). This proving to be a worry for the working city and sustainable economic growth commitments.</p> <p>Spatial aspirations</p> <ul style="list-style-type: none"> • 14,000 jobs to be created over the plan period with allocated employment area being the focus for employment uses and a rolling 5 year land supply with a minimum reservoir of 12.4ha p.a. Office use will be spread across a range of sites, accommodating up to 422,000m² of new office space, primarily in the urban core. • 21, 000 new homes across Newcastle with the majority located in neighbourhoods. <p>Relevant transport issues / initiatives</p> <ul style="list-style-type: none"> • Emphasis is placed on promoting alternative travel choices to encourage a modal shift from private car use to more sustainable alternatives, through an established hierarchy where priority is given firstly to walking, cycling, public transport, freight and finally, car traffic. • Bus based Park and Ride will be pursued at Follingsby, Lobley Hill, Eighton Lodge and west of Newcastle. • Development of a car parking strategy to manage demand and seek to minimise long-stay commuter parking in the urban core and local centres. • Improvement of the operation of existing transport networks and strategic connections, in particular the creation of additional capacity at key pressure points on the A1. • The development of urban traffic management and control infrastructure • Emphasis is placed on supporting the expansion of travel and freight movement opportunities provided by key gateways e.g. Newcastle International Airport, Newcastle Central Station and the Port of Tyne.

Local Authority	Headline Summary
	<ul style="list-style-type: none"> • Enhancements to strategic road network will include road widening and junction improvements within and outside the plan area. • Tackling congestion on the A1 is a priority. <p>To minimise the number of car trips attracted and generated through development, best mitigation practice will be implemented to address potential impacts and robust travel plans will be required.</p>
Gateshead	<p>Development plan status</p> <p>Consultation on the One Core Strategy and Urban Core Area Action Plan submission draft is expecting to take place during winter 2012. Consultation on the <i>Making Spaces for Growing Places Preferred Options</i> is due to be consulted on in November/December 2012.</p> <p>Background</p> <p><i>Proposed major changes report</i> (June 2012) indicates that a joint population of around 500,000 people (297,800 in Newcastle and 202,100 in Gateshead) will still be achieved, but rather than a growth in the working age population there will instead be a decline with 7400 fewer working age people (-5800 in Newcastle and -1600 in Gateshead). This proving to be a worry for the Working City and sustainable economic growth commitments.</p> <p>Spatial aspirations</p> <ul style="list-style-type: none"> • 8,000 jobs in Gateshead to be created over the plan period with allocated employment area being the focus for employment uses and a rolling 5 year land supply with a minimum reservoir of 12.4ha p.a. across the Newcastle/Gateshead region. Office use will be spread across a range of sites, accommodating up to 422,000m² of new office space, primarily in the Urban Core. • 15, 000 new homes across Gateshead with the majority located in neighbourhoods. <p>Relevant transport issues / initiatives</p> <ul style="list-style-type: none"> • Emphasis is placed on promoting alternative travel choices to encourage a modal shift from private car use to more sustainable alternatives, through an established hierarchy where priority is given firstly to walking, cycling, public transport, freight and finally, car traffic. • Bus based park and ride will be pursued at Follingsby, Lobley Hill, Eighton Lodge and west of Newcastle. • Development of a car parking strategy to manage demand and seek to minimise long-stay commuter parking in the Urban Core and local centres. • Improvement of the operation of existing transport networks and strategic

Local Authority	Headline Summary
	<p>connections, in particular the creation of additional capacity at key pressure points on the A1.</p> <ul style="list-style-type: none"> • The development of urban traffic management and control infrastructure • Emphasis is placed on supporting the expansion of travel and freight movement opportunities provided by key gateways e.g. Newcastle International Airport, Newcastle Central Station and the Port of Tyne. • Enhancements to strategic road network will include road widening and junction improvements within and outside the plan area. • Tackling congestion on the A1 is a priority. <p>To minimise the number of car trips attracted and generated through development, best mitigation practice will be implemented to address potential impacts and robust travel plans will be required.</p>
Durham	<p>Development plan status</p> <p>Consultation on the <i>Local Plan Preferred Options and Proposed Site Allocations</i> recently closed on 26 November 2012. It is expected that a consultation period will begin on the submission draft in May/June 2013.</p> <p>Background</p> <p>The 2011 Census indicates County Durham has an estimated population of 513,200 people and an ageing population in common with other parts of England and Wales. In addition, there was an unexpected rise in the 15 to 29 age group. It must be noted that demographic and household projections in the plan are underpinned by Durham County Council 2008 population estimate of 498,706. Therefore, the Council will be considering the impact of these changes and assessing any amendments to population, household and employment projections reflected in the submission draft.</p> <p>Spatial aspirations</p> <ul style="list-style-type: none"> • Creation of 30,000 new jobs, 300 hectares of general and specific use employment land for office, industrial and warehousing purposes, and 29,750 sqm (gross) of new retail floorspace. • At least 30,000 new homes of mixed type, size and tenure. • Significant retail, housing, office and employment development will be delivered across the 12 main towns, whilst 23 smaller towns and larger villages will function as primary local employment and service centres <p>Relevant transport issues/initiatives</p> <ul style="list-style-type: none"> • Land is allocated for the construction of the Western Relief Road in

Local Authority	Headline Summary
	<p>Durham City. It is located to the west of the A167 and will connect the A691 at Sniperly park and ride roundabout at its northern end with the B6302 Broom Lane at its southern end.</p> <ul style="list-style-type: none"> • Land is allocated for the construction of the Northern Relief Road in Durham City. It will connect the Red House roundabout at its western end with the A690 as its eastern end near junction 62 of the A1(M). • Emphasis is placed on promoting sustainable travel by accommodating and investing in modes of travel such as public transport, cycling and walking. Sustainable modes of travel will be promoted through travel planning and good design. • All development proposals should ensure that any new traffic generated by new development can be safely accommodated on the strategic highway network. Major developments will be supported by a transport statement or transport assessment and travel plan. • New highways schemes will be approved where they are necessary to; improve the existing highway network; accommodate future development sites; and make safe and proper provision for the movement of pedestrians, cyclists an public transport • The Council will support proposals for improvements to the highway network, in the absence of suitable alternatives. Schemes already identified include: Local road improvements at Honest Lawyer junction (A167); Improvements at Northlands roundabout, Chester-le-Street' strategic road network Improvements at junction 63 of the A1 (M), Chester-le-Street; and phase 2 of the East Durham link road at Murton.
Northumberland	<p>Development plan status</p> <p>Consultation on the <i>Core strategy preferred options</i> will commence from 6 February 2013 to 20 March 2013.</p> <p>Background</p> <p><i>Northumberland core strategy issues and options consultation document</i> (May 2012) indicates an approximate population of 312,000 people, which is estimated to increase to 338,000 by 2033. The majority of growth is in the over 65 age group, which will have implications for meeting the needs of an ageing population.</p> <p>Spatial aspirations</p> <ul style="list-style-type: none"> • Delivery of between 14,440 to 24,090 houses over the plan period • A range of 293 to 317 hectares of general employment land is required

Local Authority	Headline Summary
	<p>with the majority of potential new land located in south and west Northumberland.</p> <p>Relevant transport issues/initiatives</p> <ul style="list-style-type: none"> • Key issues regarding transportation in Northumberland include: accessibility and public transport; walking and cycling facilities and infrastructure; and improving the road network. • Proposals for new development will be required to ensure good access via a range of sustainable modes of travel e.g. walking, cycling and public transport • Emphasis on new development contributing to the maintenance or improvement of infrastructure to ensure its development sites are integrated with existing networks. • The effects of development on the road network must be taken into account and mitigated through development management decisions. • The Council has identified congestion problems at A1/A19 Seaton Burn junction, A1068 Fisher Lane/A19 junction and A19/A189 Moor Farm roundabout. • It is anticipated that works to Morpeth Northern Bypass will commence in spring 2014 in relation to improving road access between the A1 and south-east Northumberland. • Developer contributions will be sought in order to mitigate the capacity and congestion issues on Seaton Burn and Moor Farm junctions as a result from development within south-east Northumberland, north Tyneside and Newcastle. • The Council's local transport plan has identified that a major new link from Blyth towards the A189 may be required in the longer term to reduce constrains regarding accessibility and capacity. • Further work is required on the proposal for a bypass at Ponteland.